AMERICAN BEE JOURNAL.

EDITED AND PUBLISHED BY SAMUEL WAGNER, WASHINGTON, D. C.

AT TWO DOLLARS PER ANNUM, PAYABLE IN ADVANCE.

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[For the American Bee Journal.]

The Italian Bee.

When the American Bee Journal makes its monthly visit to me I rejoice, for I always read it with as much interest as our German apistical periodicals. It is, in fact, so excellent a paper, that the American bee-keepers may well be heartily congratulated on being furnished with it, carefully edited as it is, and sustained by a large number of experienced and intelligent contributors. Among these latter, the names of a Gallup, a Novice, a Grimm, an Alley and a Nesbit, with many others, have been made quite as familiar to me, by their interesting communications, as those of our German writers on similar topics. Though I have not the pleasure of knowing them personally, it would be exceedingly gratifying to me, were I permitted to visit America, to avail myself of the opportunity to surprise some of these coryphæi of American bee-keepers some fine day in their apiaries. Nor would it be less gratifying to me, could I occasionally receive a visit from some of them, here in Brunswick. But since neither the one nor the other of these is likely to occur, I will, for the present, employ another mode of communicating with my transatlantic friends—selecting as the subject of my remarks a theme, the discussion of which appears to be, at this time, a prominent topic among American apiarians—the ITALIAN BEE. I shall submit my views of it freely, candidly; and unreservedly, anticipating a possible rejoinder in the same spirit.

Among the several varieties of the honey bee yet known to me, I regard the Italian as the best. I value these bees highly, because of their industry, their productiveness, their marked gentleness, and their gallantry in defence of their stores, as well as because of their color. I see from the Bee Journal, that the larger number of American bee-keepers coincide with me in these views; but much less unanimity of opinion is likely to be found as regards the answer which the experience of years constrains me to give to the inquiry—"What is the chief characteristic mark of the genuine Italians?" or, "when may we pronounce Italians *pure*?"

I should think that the reply to this inquiry must, without doubt, be this:—"Italian bees are pure, when they bear distinctly and fixedly the marks which we find distinguishing those bees in the sections of Italy, and Italian Switzerland, in which they have been found existing for centuries past, unaided by special arts of cultivation, and as they exist there at the present day. To this class of districts belong upper Italy, and Bellinzona, in the Canton of Tessin, and Roveredo, in the Canton of Grisons, in Switzerland. Now, what are the marks which we find distinguishing the Italian bees there? They invariably show three yellow bands, sometimes more, sometimes less distinctly impressed. The color of these bands (of which two are broad and one is narrow,) varies somewhat, according to locality. In Upper Italy, the color of the bands is somewhat light, while in Tessin and the Grisons it approaches more that of the chestnut. The drones are yellow on the under side of the body, and have two narrow dark yellow—not to say clay-colored—bands on the upper. The queens differ somewhat as regards coloring. Some are yellow to the extreme tip of the abdomen; while others have bands less yellow or brownish, and from the third abdominal segment onward, their color passes gradually into a darker shade. Many of these queens produce princesses all uniformly alike, of yellow or brownish color, whereas the daughters of others, are more or less blackish or dark, not resembling their mother. But all the queens derived from the districts named, without exception, produce workers having yellow or brownish (orange-colored) bands. Such is the archetype of the Italian bee. All deviations therefrom are no longer pure, whether passing in one direction or another.

Formerly, it was customary to maintain in Germany, that there was in this bee, even as obtained from Italy and Italian Switzerland, a slight dash of black blood. But I cannot concede that this is so; for if the introduction of black blood in the districts named were of a character to make itself perceptible, as has been alleged, then, in consequence of its perpetual influx, and in view of the fact that black bees are largely in the majority on earth, the yellow color would long since have been obliterated, as daily experience shows, when Italians are bred among black bees. On the other hand, with thorough seclusion from intermixture with

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black bees, the supposed fragmental dash of black blood would, in regular breeding, have long since been expelled, and the true or genuine type of the race restored, precisely as Italian bees, n natural breeding among black bees, after several generations, resume their proper native type. But this is by no means the case with the proper genuine Italian bee—neither the one nor the other taking place. As in the case of all other animals living and breeding in a state of nature, so with the bees in Italy and Italian Switzerland, an archetypal race has been gradually formed, and this more especially in the portions precisely of those countries which, hemmed in by lofty snow-capped mountains, give them so isolated a location, that even an occasional or accidental introduction of fresh blood is impossible, without human intervention. But such intervention has certainly not there taken place, because the inhabitants have never yet practised improved or rational bee-culture, and only recently a few emigrants have settled there, for the express purpose of supplying the outer world with genuine Italian queens.

Yet it is unquestionably true, that by careful selection of queens for breeding stock, Italian queens have been produced, which, as regards their color, and that of their progeny, are considerably lighter, and, I concede, handsomer also, than the original stock. But these lighter and handsomer bees are the product of artificial, or rather scientific breeding, and of the peculiar circumstances amid which they came into existence. Thus, too, it is stated that the young queens now bred in America, from inported stock, are lighter colored than their mothers. But I can by no means admit that those bees are still genuine Italians, because they lack the genuine characteristic marks of real Italians. They are, if we so please, *improved Italians*, or they may perhaps, be more accurately named AMERICAN ITALIANS. Dzierzon also has, by careful selection of queens for breeding stock, secured a variety in his apiaries, which are prettier or brighter than those procured from Italy or Switzerland. But that Dzierzon's Italians exclusively, or those brighter American Italians alone, are to be regarded as genuine, is certainly not the fact; and Mr. Quinby is undoubtedly correct when he says, in the American Bee Journal, Vol. V., p. 200—" Dzierzon's full-blooded bees have three bands exclusive of the narrow strip. But in Italy, where these very bees were obtained, they have but two; and now, after he has succeeded in breeding, through several generations, a lighter color than the original, should he advertise that four bands were the *only* test of purity, and considered so 'by the best apiarians,' and the pure are in his hands and you must come to him for them, it would be as consistent as very many of our folks are. When we find who the 'best apiarians' are, we will inquire of them if it is possible for any of those of our imported queens, that come from a district where no black bees are known, to be pure, although they show less than four bands?" Thoroughly correct.

But how is it now in regard to the economic value of these brighter—I will say four-banded—bees, which, strictly speaking, have as yet only an ideal existence, for in fact Dzierzon's handsomest bees have only three yellow bands? This is undoubtedly another, yet most important question, for the bee-keeper whose object is to obtain honey and wax in remunerating quantities, and who cares not to make money by trafficing in handsome queens. The eager desire to possess these so-called four-banded bees, exposes us to some disadvantages, inseparable from these finely marked specimens. These external pretty marks, are not only regarded as undeniable proofs of the greatest purity, but as evidence of the highest economic value. Yet such is, in many instances, by no means the case; nay, according to my own experience, and that of many other German bee-keepers, it mostly happens, that these handsome light bees, have much less economic value than is attributed to them. It was laid down as an axiom that the brighter and finer the color, the higher the commercial value of the bees. No wonder then if, in consequence of this view, the demand for the brightest colored bees became very general, for with the bright color, every other desirable quality was, *a priori*, thought to be secured. No wonder then, if, for that reason breeders prefer breeding for color, in order to secure marketable products and ready sale. These queens, bred exclusively for color, possess, in this, the utmost yet attainable degree of external beauty, really not seldom their chief defect. They are constitutionally more delicate, their queens are less prolific than they should be, and the colonies consequently do not winter well—that is, they reach the spring in a feeble state, after a large consumption of stores. But how should it be otherwise? The attentive breeder discovers in his apiary a colony with a bright queen and splendid workers, or he purchases such a queen for a round sum. Her pretty colony is his sole inducement for breeding from this queen, hardly concerning himself about aught besides. But this is not the proper course. Color alone should not decide, when arranging for queen breeding, regard should be had also to the prolificness of the queen from which we design to breed, and to the industry of the workers she produces, as well as their peaceableness, readiness to resist attempts at robbing, and their cautiousness in leaving their hive in bad weather. Many German breeders now are careful to breed in this direction, and their efforts have not been unsuccessful, inasmuch as they have a type of bees already in their apiaries, possessing much greater economic value in all the points just indicated. Hence, it is manifestly a great error, in which many breeders are still involved, to breed solely with reference to color.

Of course, it is altogether a different matter, when, from a large number of colonies, a selection is made from among the best marked bees and queens, and those best in all respects are taken to breed from. In this, no one has been more eminently successful than Dzierzon. Long experience, and his peculiar genius as an apiarian, have enabled him to produce in his apiary the most beautiful workers, combining at the same time all the other desirable qualities. Very distinguished specimens of these still so-called Italian

queens, are of course liberally paid for by enterprizing breeders; and it is not uncommon for Dzierzon to receive fifteen or twenty dollars for such, though he does not usually charge more than six dollars for queens not brighter in color than those obtained from Italy and Italian Switzerland.

I would say, in conclusion, that though I am engaged in bee-culture chiefly for my own gratification, and mainly in its scientific aspects, it ever affords me pleasure to be of service in any manner to bee-keepers, with the consciousness that I have contributed aught to the advancement of bee-culture.

C. F. H. GRAVENHORST.

Braunschweig, Germany, Feb. 2, 1871.

[For the American Bee Journal.]

Italian Bees.

MR. EDITOR:—In No. 1, page 17, of Vol. VI. of the Journal, Mr. A. Barnard commences an article headed "Italian Bees, Questions," &c., as follows: "Is the allowed superiority of the Italian bees a natural quality, or only the result of circumstances? People have thought that changing the locality of bees once in a few years, was productive of good. One case I will mention. One very poor year, a man who had a dozen or more of swarms, gave one to his daughter, who was married. Others had let here and there a swarm, all of which were moved; and it was noticed that all those moved swarmed, while those not moved did nothing. The bees thus swarming showed no superiority in the spring, over those not moved. If Italian queens are imported, or raised here and sold, the mother of the new queen has changed her location; and that, I judge, to be equal to changing the swarm."

I will not copy the whole of the article, although it almost seems necessary to do so, to have the readers of the Journal understand my reply. I wish they would hunt up that article and read it again. To the first question I answer thus—the allowed superiority of the Italian bees is a natural quality, and this is my reason for answering so: For the last four years I have bought up all the black colonies in the neighborhood of my home apiary, for the sake of getting them out of the way, and brought them home. Treated exactly like the Italians, they have nevertheless in every instance fallen greatly behind in productiveness. A year ago last fall, I bought from a neighbor living 1½ miles off, the only two black colonies out of six, that had stores enough to winter, brought them home, and wintered them with my Italians in my cellar. One of those colonies died during the winter; the other came out in good condition. It seemed to get along as well as the Italians in the first part of the season, swarmed on the 7th of June, being the third swarm from over two hundred old stocks. The swarm not being large, was hived into a hive full of comb, with three or four pounds of honey. I put boxes on top of it when basswood came into blossom, and expected to get some box honey. But not only did I get none, it did not even collect and store honey enough to winter on. To keep it over for experiment, I supplied it with twelve pounds of honey in comb. And the old stock, when I examined it in the fall, had not over five pounds of honey for winter stores; and to save it for the same purpose, I gave it twenty pounds of honey in the comb.

Another case, to illustrate. In the spring of 1869, I removed one stock of black bees to my southern apiary, where I had wintered one hundred and sixteen stocks of Italians and hybrids. That season was a very poor one, so that black bees around here gave no swarms or surplus honey. My 116 Italians and hybrids gave about seventy swarms, and gathered honey enough to winter 178 colonies. The black colony gave no swarm, although I furnished it with some honey during the month of June; and in the fall I had to take it up, as it had no stores at all.

Again, in August last summer, I took the honey of seventy colonies, some of them young swarms, and removed them eleven miles, near a twenty-acre buckwheat field. All of those colonies gathered winter stores enough, and some of them stored some honey in boxes. But the black bees—seven colonies only—of a neighbor living within half a mile of the same buckwheat field, did not more than half fill their hives.

The case Mr. Barnard refers to, in which the stocks that were removed off swarmed, while those remaining at home did not swarm, is no proof that changing the location was having an influence on the bees. It is only another striking proof how very different the pasturage for bees may be, from difference of soil and weather. In 1869, Rev. Mr. Manwell, of Whitewater, who keeps his bees only six miles from my southern apiary, had what seemed to me an extraordinary yield of surplus honey, while my bees barely sustained themselves. Last season, I am told, Mr. Manwell's bees did almost nothing, while I had a very large yield of honey from mine.

As far as mixing and crossing the breed is concerned, I will state that it is absolutely necessary, in order to prevent the running out of an apiary. It is conceded on all sides that hybrid bees are the most productive ones; and I agree in this statement, if the measure is taken in a good or an extra-good season, and the bees are left to themselves, without occasionally emptying the combs of the pure Italians. A very different result, however, will be found in a poor season. Then the pure Italians will have a larger amount of winter stores in the fall than the hybrids, simply for the reason that they do not indulge so much in breeding late in the season as the hybrids do. But we shall not hear so much of the superiority of the hybrids over the pure Italians, when bee-keepers shall have discovered the prevalent erroneous notion that the nicer and brighter the Italian bees and queen bees are, the purer and more productive they must be. In common with Mr. M. Miller, I have no fancy for in and in bred bees. I want bees for business, three-striped, shade of color of no account. I want none of those gentle bees, that do not sting. I want such as will defend them

selves, and make their disturbers feel their stings. Such are the ones I breed, and such will be the ones I send, when any are ordered from my apiary.

I was induced to write this as an answer to Mr. Barnard's second article in the Journal, No. 9, Vol. VI., page 209, as he draws a different conclusion from the fact that his former article remained unanswered. A. GRIMM.

Jefferson, Wis., March, 1871.

[For the American Bee Journal.]

Novice.

DEAR BEE JOURNAL:—Are all of your readers rejoicing in an early and extremely favorable spring for our pets? Thus far we are.

Mr. Langstroth writes us on the 6th of April, that he has both drones and young queens; and we found, on the 10th, a young queen laying, at which you may imagine we rejoiced some, as she was hatched on the 10th of March, to replace a queen that died in February. So that stock is all right after all.

We had besides one hive queen raising entirely, and two drone laying queens, which we shall bring out all right, by making some of our prolific Italian queens donate a few eggs occasionally, until their own young queens lay, which daily we expect them to do. As we said in March, we have lost no stock in wintering; but we have lost one since, in this way.

They were in the Diamond hive that Dr. Conklin sent us. (By the way that Diamond hive seems destined to be unfortunate, although we cannot say that any fault is attached to the hive, except that it is unlike all the rest, so that we cannot exchange frames, &c.) Well they had plenty of honey in February, when removed from winter quarters, but no brood, and yet a good looking queen that would not lay, although we tried all our art to induce her majesty to commence that duty so necessary and desirable, both to her bees as well as to ourselves. We fed them profusely, and at length, when all else failed, we *cut out* some brood, (something we always hate to do, as it reminds us so much of the old box hives,) and put it into a diamond frame. But we were too late about it, the bees had got old and cared so little for the rising generation, that the brood was not nursed. The bees finally dwindled away and got "few and far between," and her ladyship herself got lost. But as *she* wouldn't lay, *we* wouldn't mourn her loss; and so we have only sixty-three colonies instead of sixty-four.

We have satisfied ourselves of this fact—to have colonies come out strong in the spring, they must be induced to raise plenty of brood late in the previous fall. Several colonies that we removed old queens from, because they were too near black, and made them raise queens late in the fall, were prevented from raising as much brood as the others, and we have remarked that their old bees are gone very quick this spring. We supposed that there would be less loss in keeping them queenless a short time then, than at any other season; but cannot think so now.

For the first time we have been feeding all our bees this spring, using sweetened water to stimulate breeding. They have plenty of honey, but we noticed so many of them eagerly bringing water, that it struck us we could furnish it cheaper, especially in bad weather. We commenced April 1st, and as sixty-three feeders to take care of aft.r we were done with them, looked like too much of a bother, we decided to pour the feed *directly on the cluster*; then they would be sure to get it in any weather, and it was soon done and *all* done with. After raising the honey boards several mornings and replacing them, we found that some strong stocks of hybrids began to object. So we made some little quilts, just to cover the top of the frames, and left off the honey board entirely. These worked so much to our satisfaction, that we have now discarded every honey board, and we really do not believe that we shall ever want any more. The quilts are made thus: Get heavy sheeting, forty inches wide; tear off strips sixteen inches, bring the two ends together and get some "feminine" (not one of the woman's rights kind) to baste the sides, turn it inside out, and you have a bag fifteen by twenty inches, just right to cover the top of a Langstroth hive. Put in a sheet of wadding folded so as to make four thicknesses; sow up the mouth, and take a few stitches to keep the wadding in place, and it is done.

This is warmer than any honey board, can be shut down as quick as you like when in a hurry, without any fear of mashing bees; and when covered up they are as mum, as a lot of chickens under the "maternal Biddy." They will gum it down just enough, so that you need not raise it only far enough to pour the feed on the cluster; and this can be done without any snapping and jar, and so quietly that even our hybrids do not have time to stand on their heads and get into a passion. We almost forgot to add that it also stops the circulation of air above the frames, *a la* Quinby's tins and King's closed top frames, without half the trouble of either.

By the way, if any of our readers take the Beekeepers' Journal and have noticed an article from Novice that looks somewhat inconsistent—with his writings *here*, let them remember that Novice *did not* write the article as it is there, but that Mr. King changed it to suit *his paper and hive*, after he had been *expressly forbidden to do so* if he published it.

The expense of glass jars, labor, &c., is so great that we have partly decided to put our honey this season in new white oak barrels, at least for the present. Should it be preferred in jars, it can be put in them at any time; and in case it should be required in bulk, we shall not be under the disagreeable necessity of pouring it out of the jars, as we have had to do twice already.

We would tender our sincere thanks to "Sue W.," for the high opinion she has of our skill. A lady who assists us in our apiary, thinks we have very many things to learn to *do well* yet;

and we think it no more than justice to say that much is due to her for the thoroughness with which we have gone through with many things we have undertaken; as also for the neatness and orderly appearance of our apiary and implements. She certainly has had very much to do with it. Of course she does not know what we are writing, or we fear, Mr. Editor, this would never reach you. We mention it to show that ladies have a particular adaptation for managing an apiary, when they care for bees, and we should very much like to meet them oftener in the Journal.* We feel sure, if they would write, it would be found that their articles many times contained more value than those of our sex. We are so ready to tell all we know, and sometimes some things we don't know.

With best wishes to all bee keepers, most especially to all lady bee keepers, (how we would visit their apiaries!) we remain, as ever.

NOVICE.

P. S.—Our reply to "Nut for Novice," &c., page 291, would be that many hybrid queens produce such bees, nearly always some three *banded*, but not often *no* banded.

* WE, likewise.—ED.

[For the American Bee Journal]

Bee Hunting.

Probably a large majority of the readers of the Journal are about as much interested on the subject of bee hunting as some of us at least are in the many controversies in relation to hives; but that some of them are interested is evident from the numerous letters recently received, asking for a more minute description of the course pursued in hunting bees. To these inquiries allow me to reply through the Journal.

First let me premise by saying that I came to Michigan in 1835, when this county (Jackson) was new, wild, and almost entirely uninhabited, except by Indians. It was four miles to our nearest neighbors. Bears, deer, wolves, turkeys, and various other kinds of game were numerous, while bee trees, rich in stores, were abundant. As I had a natural "liking" for bees, and an older brother who hunted them, I soon learned something of the "*modus operandi*" of bee hunting. My first bee tree was found in the fall of 1839, when I was thirteen years old, since which time there have been but few years in which I have not hunted them some, and even now after a lapse of thirty years, since the commencement of my bee hunting, I *love* to take my "traps," and for the present bid adieu to care and anxiety, go into the woods, and spend a day or two in this to me enjoyable pastime—not for pecuniary gain, but for amusement, pleasure, diversion, and relaxation from labor. And I always *feel* that this day has been profitably spent, whether honey is found or otherwise.

A few words more in relation to my bee hunting, and we will proceed to business, or pleasure rather. I think it was in April, 1843, that I found a swarm of bees in the body of a tamarack tree. The hollow was about seven inches in diameter and eight feet long, with four pieces of comb extending the whole length. The entrance was two feet from the lower end. I cut the tree down, cut the log off above and below the combs, drew it home with an ox team and sled, and set it up in the yard in a perpendicular position against a tree. With this I commenced bee keeping and bee studying. I do not know that I have since had bees winter better out of doors than they did in the tamarack log. If I was selling tall or deep hives, I could make use of it as an argument in favor of hives of the tallest kind. The next fall the tree supporting the log was cut down, and the bee-log was laid in a horizontal position, with each end resting on a bench. The bees came through the winter in excellent condition, quite as well as they did the previous winter when the log was upright. If I was selling shallow hives, I could make use of this as an argument in favor of hives of that style. Either way, gentlemen, how will you have it?

But we hunted at all seasons, when the weather is favorable. A great many bees are found in the winter. The hunter gets his "lines" the summer or fall previous, either by getting bees at work on honey, or watching them as they leave some pool of water, only "lining" them from a field of buckwheat or from other flowers. He then marks the lines, so that on any warm sunny day in winter, when bees are flying and the earth is covered with a white blanket, he can follow a line to the tree, which he finds by the bees and their excrements on the snow under and around it. The course pursued in hunting them in the spring, before the appearance of flowers, is precisely the same as in the fall after the flowers have failed.

When we attempt to give the novice a lesson in bee keeping, we prefer to go with him into the yard, open one of our hives, and, with the book before us, illustrate the lesson, and perhaps we could best give the uninitiated reader a lesson in bee hunting, by taking him with us on a regular bee hunt. The afternoon is pleasant and warm, and there is no wind, it could not be better for our business. Yonder is a large tract of timber, in which there is one bee tree, and only one. We want to find it. We know nothing about what part of the woods it is in. How shall we find it out? If we should go there and commence on one side to go over the ground, carefully looking in every tree as we went, we should eventually find it. We might find it to-day, or it might be a long job requiring days, perhaps weeks, for its accomplishment. Now by making use of one or two facts in relation to bees, with which we are perfectly familiar, we can accomplish the same result in much less time and with much less labor.

We know that bees are great seekers after honey, and that they will appropriate it to their own use whenever they find it. And we also know that a loaded bee will fly on nearly a straight line for home. Now if we can get those bees at work on honey, and watch them as they go home with it, we can ascertain what part of the woods the tree is in. Hence we will take

some honey with us. The tree may be in a hard place to find, we may be a long time about it, and in the meantime we may have bees at work by the hundred, perhaps by the thousand. They will carry our honey away rapidly, and therefore we must take plenty of it with us—five or six pounds at least. If they carry it all away we shall get it again when we cut the tree. If we take this honey into the woods and leave it for the bees to find, they may find it to-day, or they may not find it before to-morrow, or even the next day. We cannot hunt to-morrow; we must hunt to-day. How shall we fetch the bees to it? Drumming on a hollow log will sometimes attract bees. Anise oil is often used for the same purpose. But we prefer the smoke from burning honey comb, and we will use it; but to do so we must have fire.

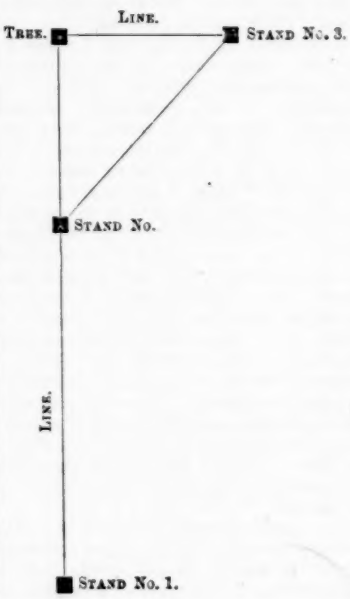
We can build a fire in the woods, but we may want it in several places. It would take a great deal of time to build them, and it is now sometime after noon. We *must* find that tree to-day, and cannot fool away time in building fires. Instead of that we will take this old ash pail, put a shovel full of ashes in the bottom, then one of live coals, and cover these with warm ashes. It would last us half a day, perhaps all day, and we want it to last till the tree is found, and wish to have it just where and right where we want to use it, without loss of time.

We are now armed and equipped for the hunt. We go to the woods, and for the first stand select an opening where there is nothing to hinder our "lining" bees as they leave it. To burn for smoke we choose a piece of comb moist with honey and containing some "bee bread. It will last longer and make a better smoke than dry comb. For convenience in *lining* we will put the honey on this bush, up four or five feet from the ground. We must now await for bees, and while we are waiting we will sit down on this log and *talk* bee. We are hunting bees to-day, our minds are on our business, and we can't talk on any other subject.

Bees can talk as well as we can. They have a language of their own, one which although we may not always understand it, is to them perfectly intelligible. For example, watch a swarm when it issues, catch and confine the queen. The bees commence a search for her, at first near the hive, afterwards further from it, and before the search is given up they will be scattered over the yard, perhaps over a space of twenty rods or more square. Now release the queen, and let her fly among them, and the scene changes at once. The noise made by the flying bees is different. By it the intelligence is quickly communicated from one bee to another that the queen is found, and in a few moments the whole of this scattered swarm is collected in a dense flying mass around her. Was there no talking there? Take another illustration, where the talking is on a different subject. Let a loaded bee enter a hive, and it will tell.

But, hark! there's a bee! It has found the honey and is filling its honey-sac. Now that bee will not be satisfied with going home with one load, but will return for more, and in order to know where to return to when it leaves, and it is now leaving the stand, it will mark the location by surrounding objects, precisely the same as it did when it first left the tree, but in so doing it has described so many circles, and gone so high in the air that we have lost sight of it, and have failed in getting a line. We must wait for its return. When that bee enters the tree it will tell others there that there is honey to be found, and they will come out in search of it. Not only so, but when it leaves it, it will tell with its wings in what direction it is found. You may blindfold an old experienced apiarian, Mr. Langstroth, for example, take him into a yard where bees are robbing, and he knows it at once by the "note" of the robbing bees. The note is very different, on a much higher key than that of bees at ordinary labor. The note of this bee is precisely the same. Other bees follow it, and if the tree is not too far off some of them will follow it to the stand. There it comes again, and two more with it. It has been gone only a short time; long enough, we think, to go about half a mile and return.

How long will it take a bee to fly half a mile? I am sorry I cannot answer your question. I have watched thousands of them, but have never timed it. When I am waiting for a bee to return, I am anxious, and want to be at work. The time then seems much longer than it really is, and if I should hazard a guess it might be far from correct. The time will vary too with the weather. A bee will go a mile and return sooner on a warm day than on a cool one, and sooner on a still day than on a windy one—all of which must be taken in account in guessing at distance. Our bee is going again and we must watch it. The location was marked the first time it left, this time it describes only a few circles before it leaves for home. There it goes, straight north, and we have the *line*.



We now know in what direction the bee tree is Our next business is to ascertain its exact location. We will leave some honey here for these bees to work at to keep them telling other bees at home that there is honey to be found until we have them at work in a new place. We will now take our "traps" and follow the line nearly half a mile to stand No. 2, where we proceed the same as at the first stand, and from which we soon have a line in the same direction north. Hundreds of bees are here now at work, and more coming. The tree cannot be far off. We might possibly find it to-day by following the line, and looking in the trees as we went. But we do not know exactly how far it is from us, and should probably look in a good many trees where there are no bees. Each would take up some time, and we have no time to spare. We can save time by lining them at a right angle, or nearly so, with the first one, showing us just where to look for the tree. If you will follow this line, I will follow the one from stand No. 3, and we will meet at the angle.

We have now been in the woods nearly two hours hunting bees, without having once looked in a tree for them. What have we been doing all this time? What have we accomplished? Let us see. When we commenced we knew there was a bee tree somewhere in this tract of timber. We had not the most remote idea as to its situation, but by getting bees at work in different places, and lining them from different points, we have not only ascertained what part of the woods the tree is in, but we have narrowed down and contracted its location to a compass so small that we have only a few trees to look in to find it. In fact, there is but one tree here, near where the two lines meet, that looks likely to have bees in, and that is this large oak by the side of which we are standing, and here they are. Our bee tree is found.

During the summer months bees are collecting honey from flowers, and except in a season of scarcity, or when it has been fed to them, they will not notice it elsewhere, neither will they come for smoke. At such season some other course must be taken to get them at work on it. I generally find some place where there are plenty of flowers in which bees are at work, and sprinkle thin diluted honey on all the flowers on a "patch" a rod square or larger, and place some honey in the comb near it. In two or three hours I will have bees at work in large numbers, the whole colony becomes aroused, going out in search of honey, and if I now leave it anywhere, on or near the line, they will soon find it.

J. H. TOWNLEY.

Parma, Mich.

[For the American Bee Journal.]

About Purity of Drones.

In an article headed "A VISIT to DZIERZON," written by Dr. Preuss, in the German Bienenzeitung, Vol. 27, page 6. I find the following interesting statement:—"Of such perfectly pure, *i. e.* without a single exception, golden-ringed worker bees, as I raised from a queen received from Dzierzon, I saw only a moderate number; and I am persuaded that Dzierzon ships only a small fraction of the queens reared by him. The price, too, in view of the great labor involved and the large sacrifice of honey required, is a very moderate one." On page 7, Dr. Preuss further says:—"We came to speak also about the origin of the drones, and I stated that the following fact had led me to very earnest reflection; a queen already referred to by me, procurred from Carlsmarkt [Dzierzon] produced besides the workers, the very prettiest drones—having without exception golden rings. She died after the lapse of two years. Her daughter, as she was undoubtedly pure, ought to have produced drones equally beautiful, whether fertilized by an Italian or a common drone. Yet this was by no means the case. The drones were black, and scarcely distinguishable from the German. The workers were hybrids." There is, I continued, "no doubt that an unimpregnated queen lays drone eggs. But it is a question whether the drones that have a fertilized queen for their mother, are not also produced by the influence of the father. I am aware of all that Von Berlepsch says on this point, who has likewise noticed the fact stated by me, that pure Italian queens frequently produce black drones, and explains it on the ground, that there is still remaining in them a fractional portion of black blood. I am also aware of the miscroscopic investigation made by Siebold and Leuckart, according to which spermatozoa are found only in the worker egg, and not in the drone egg. But such investigations are too subtle, stand too isolated, and require research." Dzierzon listened patiently, though I expressed doubt as to the general validity of his most important doctrine, and replied:—"I am regarded as an authority in bee science, but I by no means regard myself as infallible. One thing I have particularly remarked, that the constitution of the mother exerts in process of time, increased influence on her progency. The pure Italian queen impregnated by a black drone, gradually produces more and more bees resembling herself."

I have translated these remarks to show that Dzierzon concedes that he might be mistaken in his celebrated theory, and that he did not find it policy to explain Dr. Preuss' statement, or could not do so. What happened to Dr. P. I have also experienced a number of times during the last six years. I look with much suspicion on queens whose drones are highly colored, particularly since I made my large importation of queens ditrect from Italy. Nearly all the queens I reared from mothers with highly colored drones, turned out hybrids, either in the first or the second generation, even if their workers and young queens were the prettiest I ever laid eyes on. I have further noticed, in numerous instances, that drones from pure mothers impregnated by black or impure drones, are higher colored than the drones of their mother queen. I long since became suspicious of the purity of those beautiful Italian queens bred from queens imported from Germany; and my suspicion has grown stronger every year for the

last three years. Last summer I commenced experimenting in breeding queens, in a manner which I felt confident would enable me to prove that my suspicions are well-founded; but owing to the great amount of work then pressing on me, I was unable to carry out those experiments fully. I shall resume them this summer, and then I shall undoubtedly be able to prosecute them to an issue.

As it is repeatedly claimed that queen breeders have succeeded in getting queens impregnated in confinement, while I have not been so lucky, I herewith call on those fortunate ones to aid me in experimenting, by taking drones from an unimpregnated queen for impregnation. I cannot, however, refrain from suggesting that the young queen should be kept in confinement from the moment she is hatched until she has actually commenced laying worker eggs; or that the wings of the queen should be clipped, after impregnation, so short that she will not undertake to leave the hive. If such a queen, thus impregnated by a drone from an unimpregnated queen, becomes capable of laying worker eggs, I think we shall have evidence against which no suspicion can be urged; and I will then believe that the drones of an Italian queen impregnated by a black drone, are as pure as the drones of her mother;—*but no sooner.*

The above remarks were written before I received the March number, of the Bee Journal, in which I found the interesting article of Mr. Miller on pages 206 and 207. As the queen to which Mr. Miller refers, was an impregnated fertile queen when she left me, and became drone laying by being chilled, she cannot be classed with unimpregnated drone-laying queens. I should be pleased if Mr. Miller would inform the readers of the Journal whether the drones from that queen were small or large drones.

I will answer some of Mr. Miller's queries.

To 1. The queen was doubtless chilled in the queen cage during the night following the day after she was introduced in the cage. Bees will in such cases, contract their cluster during the night, and expand it again next day, covering up and reviving the caged queen.

To 6. In and in breeding produces light colored peaceable bees.

To 7. As a rule, in and in bred bees are not good workers. If we find a high colored colony that is a really good productive stock, the queen is not perfectly pure. In breeding down one or two generations, the impurity will crop out.

A. GRIMM.

Jefferson, Wis.

[For the American Bee Journal.]

All Drones alike Virile.

MR. EDITOR:—I read in the report of the Cincinnati Convention, that Mr. Root advanced the idea that drones from a virgin or unfertilized queen are not capable of fertilizing queens, or of procreation. In 1864, I learned that they are; and again, last spring, I had an opportunity of testing them. In December, 1869, I had a queen hatched in my cellar. By the 4th of April, I had drones flying, the progeny of this queen, and had queens fertilized by them. On the 26th of April I sent this queen, by mail, to Mr. John M. Follitt, Atkinson, Ills. He had then no Italian bees, and none were within nine miles of him. He reared drones from this queen, and had them mate with young black queens. The progeny of the black queens showed two and three yellow bands. From the above I do not think there is a particle of doubt on the subject. I also sent Mr. Follitt tested queens in June and July. I have so much faith in drones of this kind being virile, that I am now rearing drones from a virgin queen, and will have them hatched by the 25th of this month (March).—Some one made the inquiry in the Prairie Farmer last spring, as to whether drones from an unfertilized queen were capable of fertilizing queens. I do not remember to have seen any reply given. We should all strive for facts. My esteemed friend, Mr. Langstroth, in his valuable work on the "*Hive and Honey Bee,*" page 40, mentions having had a drone-laying queen fertilized after she had laid eggs. I would like to know if any of your readers have had a similar case.

THEO. G. MCGAW.

Monmouth, Ills., March 10, 1871.

[For the American Bee Journal.]

The Cure of Foul Brood.

MR. EDITOR:—I have had a number of letters inquiring about the permanency of the cure for foulbrood in my apiary; and as the subject may be of interest to others of your readers, I will state to you the condition of my colonies that were diseased, and offer some suggestions not as a teacher, but as a student, for yet I am only a fellow-student in this disease.

On the 15th of December I put into my bee-house, with twelve healthy colonies, six of which were found diseased in the fall, but from which all trace of disease had been removed. One of these, No. 1, raised so much brood during the winter that it used up nearly all its stores, and I was obliged to transfer it to a hive with plenty of honey; but in their old hive I could not find a trace of disease left behind. This hive had contracted the disease quite late in the fall, after honey had become scarce, consequently little or none was sealed in the presence of the disease. I shall introduce a swarm into the empty combs this summer.

No. 2 had the disease all summer, and consequently there was little honey sealed except in a contagious atmosphere. This colony also raised much brood during the winter; but there were many cells with disease left. This I discovered in February. Then I purified with chloride of soda, exposed the whole hive to a temperature six degrees below zero, and sulphured. March 16th, there was evidently a return of the disease. I removed the bees to strengthen another colony, and reserved the combs for future experiments.

No. 3 lost its queen, and the bees were too few in number to experiment with. This hive I shall

set aside after sulphuring, and introduce a colony this summer.

No. 4, with a fine queen, from its weakness raised no brood, and was transferred with its queen to No. 5. This hive is also reserved for future experiment, as soon as I get an extractor. These last two are very heavy and rich in stores.

Nos. 5 and 6 are strong, raising brood rapidly, and to all appearance perfectly healthy. Both of these contracted the disease quite late—one in September, probably the latter part; the other in August. There is no certainty but that the latter may still have diseased honey sealed up; though I think the other, No. 5, is safe. Hive No. 3 is reserved for the "time cure." Mr. Quinby says that exposure of hives to the inclemency of the winter months makes them safe for future use.* The question comes up whether it is not *time* instead of *weather* which cures. Certainly, freezing does not destroy the germs; and if it is at all akin to the epizootic disease, English authorities prove that the temperature of winter does not affect it.

Mr. Curtis, in vol. 6, page 11, says that he has the best success by removing the queen in its first stages, keeping the colony queenless from one to three months.† Here he evidently relies upon *time*. The natural life of the poison or germs may be six months or less. Would it not be well to test this point?

Nos. 2 and 4 are reserved for the following experiment.

Remove the honey with the extractor. Immerse the empty combs in a solution of common chloride of lime for a few hours, and then in a strong solution of chloride of sodium (common salt); after which rinse with clear cold water, dry, introduce a colony, and feed with the extracted honey, after it has been scalded.

If I should venture to make a rule from the few facts at hand, I should say that empty combs, or combs which can be emptied of putrid larva by the atomizer, or of honey by the extractor, can be thoroughly disinfected and safely used again. But that where there has been any honey sealed in the presence of the infection, the disease may return again within a limited time, say six months.

My two strongest colonies are those which I transferred from diseased hives last June, and fed with their own honey after it was scalded. If they had carried any disease with them, it would certainly have appeared before this.

I have no doubt but that Mr. Alley has the interest of his bee-keeping friends at heart; and he cannot too strongly caution them about this disease; but it is so much against my profession (whatever my practice may be) to cure the disease by killing the patient, that I shall adopt any method, no matter how tedious it may be, to restore my apiary to health. We cannot reasonably expect to perfect any treatment without numerous trials, defects and experiences; but I firmly believe the path which I am pursuing is the right one, although others may improve upon it, and point out a shorter road to success.

One word more in regard to chlorine. Our veterinary surgeon informs me that chlorine vapor is the *most* effectual remedy for epizootic apthæ. I have shut up in a hive chloride of lime for a few days, and, without further purification, introduced a healthy tone, without any subsequent appearance of disease. In Nos. 1 and 5, chloride of lime was introduced on the bottom board, after the spraying, without any ill effects so far as the bees were concerned, although in No. 5 the quantity was so large that the bees were paralyzed, and remained so for one or two hours before perfect recovery. It may be found that the vapor alone is sufficient for all practical purposes.

E. P. ABBE.

New Bedford, Mass., March 17, 1871.

* This is not in accordance with European experience.—ED.

† This is Dzierzon's method. The removal of the queen prevents the production of brood, and thus literally starves out the disease, when it has not yet reached its virulent and contagious stage.—ED.

[For the American Bee Journal.]

Foulbrood.

I had supposed until last summer that we were beyond the reach of foulbrood, being so far not only west, but north. Summer before last we took four swarms to the woods to see if they would do better there. They gathered more honey, but got the foulbrood. We did not know it, however, and put them in my cellar with forty other swarms, piled up. Never having seen the enemy, and not expecting it, we did not know we had it till August, and by that time we had spread it through two-thirds of our stocks by changing combs and swarming.

The odor of one of the woods' swarms first awakened me to a suspicion, and a little examination and study of the authorities soon convinced me of my fate. Part of the bees belonged to a friend who works with me. We went to work, cut out the worst combs, and burned them; cleansed the hives, whitewashed them inside, and sprinkled them and their combs with copperas water, as a disinfectant. It served as a check, and some appeared to be cured; but many are still affected. Before putting them in winter-quarters in my bee-cellar (which I described in the Journal for March, 1870), I secured a few new hives, and put the swarms in as far as they would go. Then I cleansed the emptied ones, scalded, whitewashed, sulphured, and dried them, and so went through the yard. I put a stove in my cellar, and heated and dried it several days before putting away my bees, November 25th. It being a fine day yesterday, March 7th, I took out my bees a month earlier than usual, to cleanse the hives and the cellar. I built a fire on the cellar floor to heat and dry the cellar again. I shall cleanse the hives, and as soon as it turns cold, put back the bees till the willows blossom. I have tried this before; and they will be much more quiet and do better than out of doors. The bees appear to be well. There is no mould. There are no more dead bees than usual, and nearly every swarm has brood.

I have sent to Dr. Abbe for an atomizer, and

we shall follow his directions in the spring. His method commends itself to us as rational; and we are very much obliged to him and the Bee Journal for their very prompt reports. Being a "country parson," I am not much troubled with gold; but I look at my yellow-banded bees with much of the feeling with which a miser looks at his gold.

WM. GILL.

River Falls, Wis.

[For the American Bee Journal.]

Rambling Notes and Comments.

MR. EDITOR:—Your welcome messenger, the March number of the Bee Journal, is received. First, it contains the report of the American Bee-keepers' Convention, at Cincinnati. No doubt many will read the proceedings with great interest. Then comes in our friend from New Jersey, with No. 2 of his experience in that State; and our friend from Maine gives us the methods of wintering practised by bee-keepers there. While it is known that there are from twelve to fifteen thousand bee-keepers there, it is stated that nine out of ten have not advanced beyond the old box hive. This is truly lamentable, at this late day. Where are the friends of the American Bee Journal? Had the bee-keepers there been a little more familiar with its teachings, the darkness and ignorance of this subject would long since have been numbered among the things that were.

Friend Curtis, too, from North Carolina, has given some good resolutions, if they are only put in practice. The Alsike clover spoken of will not only make there an Eldorado for bees, but for almost all kinds of stock. From our experience we would say, cultivate it largely. I think you never will regret it. Then comes in Novice, again hitting right and left, as usual; stirring up the ideas of many so-called bee-men. He touches brother Hazen softly; also mentions friends Gallup and Quinby, with regard to the melextractor, movable comb hives, &c. He also gives the queen nurseries a little rub. Well, Mr. Editor, I am a looker-on in this matter of improvements. I use such as, in my opinion, will meet the wants and wishes of the apiarian, at the least expense. There are now several hives before the public that are worthy of notice, and I am sure that it would not injure the reputation of the best man in America to use them. And here let me state one thing with regard to queen nurseries. I think I never saw but one in my life that I would use, yet there may be several very good ones. I have one manufactured by Dr. Jewel Davis, of Illinois, and if there was ever a success in improvement, I am sure this is one, and cannot fail to meet the wants of any and all ca did and unselfish apiarians in the country. I am not in the habit of giving what some of my friends might call a puff, as I can tell you that I have no interest in any. But I never like to see improvements—and "improvements" they are—spoken of lightly. I have used one of the queen nurseries made by Dr. Davis, and if I could not get the same that would work as well, I would as soon think of keeping house without a cook stove. Every bee-keeper should have one or more of them in his apiary.

To-day, March 4th, the bees are flying finely; many of them are carrying pollen. This I saw them do on the 1st of January, though I never saw the like before in this country. Thus far, bees have wintered finely; never could they be in a finer condition than now. They went into winter quarters in a better state than before for many years. The honey was of the best quality and plenty of it. I have five stocks, as strong as any I ever saw, that were wintered on their summer stands, and only consumed of their stores up to the 3d of March, as follows: No. 1, 7 lbs. 4 oz.; No. 2, 8 lbs. 3 oz.; No. 3, 9 lbs. 3 oz.; No. 4, 9 lbs. 5 oz.; No. 5, 10 lbs. 2 oz. If the season should prove to be a good one, bees are in a fine condition to secure plentiful returns; but as I see many are breeding rapidly during this month, they will use more honey,—many flying out and returning, the consumption will, of course, be greater.

One thing more and I am done. I have been trying some of the patent honey comb foundations made by the editor of the American Bee Journal, samples of which were shown at Cincinnati, to the members of the late Bee-keepers' Convention. I placed a swarm in a cellar, and fed them. Thus far, they have lengthened the cells finely. They worked so nicely, that I was almost tempted to make an offer for this "Yankee" State. Should this invention be as successful as it now has the appearance of being, it must inevitably be the means of revolutionizing bee culture to a large extent. I shall keep watch and see who is the first man that will dare open his mouth or draw the pen and say, "infringement" upon this improvement. I shall try and experiment upon it, and report progress from time to time. Mr. Editor, please pardon me for taking this liberty without being asked; and also excuse this lengthy and hastily written article.

A. H. MOON.

Paw Paw, Mich., March 4, 1871.

[For the American Bee Journal.]

Experiments with Drones, Honey Boxes, Etc.

Early in the season of 1867, I selected a strong stock of black bees in a Flander's hive, and by exchanging cards removed all the drone combs from the breeding apartment, leaving no open space to rebuild any. As soon as white clover began to yield honey abundantly, I laid thin strips of board on top of the frames, leaving about one-fourth of the space open for the heat and the bees to ascend. Over this I inverted a plain bottomless box of the capacity of forty pounds. This the bees filled in about two weeks. On removing it, I found fully one-third of its contents to be sealed drone larvæ. I brushed out the bees and set the box in a cool cellar forty-eight hours, and then returned it to the bees; but as they did not carry out any dead drones

next day, I took it off again that evening, and exposed it thoroughly to the fumes of the sulphur pit, and then returned it to the hive again. Next day still no dead drones were carried out; and in the evening I sliced off the caps from every cell, including the heads of the drones. On the following day they were carried out, and in a few days more the cells were filled with honey and sealed over.

In addition to the drone larvæ in the box, the bees managed to have drone larvæ in the hive also, for all practical purposes, having changed some cells and filled every possible crevice and corner. This stock swarmed. I also used some more of the same kind of boxes, placed in the same manner in other hives, in which I left three or four hundred scattering drone cells. The result was that on every stock that swarmed, the queen would lay more or less drone eggs in the boxes; but in stocks that did not swarm the queens laid no eggs in the boxes.

Although bees will collect more honey in large boxes than in small ones, boxes of the above-mentioned size should not be used unless provided with frames or guides of some kind, regularly spaced one and three-fourths ($1\frac{3}{4}$) or two (2) inches apart from centre to centre. Last season I used boxes that held over fifty pounds, having two tiers of frames (upper and lower) regularly spaced one and three-quarter ($1\frac{3}{4}$) inches apart from center to center. There was not an egg laid in any of these boxes. They worked to my entire satisfaction in all respects, were easily carried to market, and the honey sold readily at thirty (30) cents per pound. These frames are strong, and were returned to me when emptied, as I sold nothing but pure honey.

HENRY CRIST.

Lake, Stark Co., Ohio, March 8, 1871.

[For the American Bee Journal.]

Returning Late Swarms.

MR. EDITOR:—I would like to give to the readers of the Journal, my plan of disposing of late swarms of bees, hoping it may prove to be of as much benefit to some of them as it has been to me. Swarms that come off late in the season, generally render the old stock worthless for that season, so far as box honey is concerned, and usually failing themselves to get sufficient stores for wintering. In sections where basswood is abundant, and in seasons when it blossoms, bees can be returned to the parent stock, and thereby made to work in the right direction, In the summer of 1868, I had more swarming than I liked to see, for as fast as the swarms got into their boxes, and had them about half filled, they would swarm out and leave the stores unfit for market.

The thought then occurred to me that perhaps I could take the matter in hand, and by hiving them temporarily, and setting each swarm beside the stock it came from, and letting them go nicely to work for a day or two, and then returning them to the parent hive, they would perhaps be willing to stay there, and fill those boxes they had so disgracefully abandoned. The result was far better than I had hoped for. Of about thirty swarms that I returned, not one came off the second time, and the way the little fellows filled their boxes was not slow. Some swarms filled a set of boxes weighing forty-five pounds, in eight days after being returned. The plan worked well the first season; but the season of 1869, being so cold in this section, there did not seem to be any honey in the flowers, nor much of anything for the bees to do but swarm. Basswood failed to blossom entirely, and when I returned a swarm to its parent stock, it would be quite sure to come off the next day. Thus my plan of returning bees was a failure that season, with everything else in the bee line.

In the season of 1870, I concluded to try them again. So, on the first day of July, I commenced placing the young swarms beside the old stocks, for the purpose of returning. Basswood was just beginning to blossom, and I was in hopes to get those boxes filled, which they failed to fill the year before. I hived and returned about fifty swarms, All stayed, with the exception of two; one of these came off twice, and the other three times. Both of these killed the old queens, or they got lost or were killed in returning.

Many of the swarms were returned in twenty-four hours after hiving. In all cases I returned them whilst they were at work. They will build some comb, and the larger pieces will be partially filled with honey. These can be placed beside the hives, and the bees will carry the honey in. Then the combs can be taken away and used as guides for new boxes. Some of the combs will contain eggs; but I have never known a single instance where the bees nursed them in the boxes placed upon hives, when I had returned a swarm.

Bees should have ample room given them when they are returned. If their boxes are half, or nearly half filled, give them another set. Do not take the trouble to remove the queen cells, as I did the first that were put back. The bees will destroy them fast enough.

Bees treated in this way, when honey is abundant, are satisfied with their old homes; and the queen, after an absence of forty-eight hours, finds plenty of empty cells in which to deposit eggs, and they will go to work with more energy than ever. Novices' bees did, after he had taken the last drop of honey from them with the extractor.

In this section of country, the honey season generally closes, when basswood goes out of blossom, and but few swarms make their appearance after it has been in blossom eight or ten days. In the past season a shower of honey-dew, which lasted about three weeks, made its appearance in this section. Bees worked on it for two or three hours in the morning, in a perfect rush, and again in the afternoon, just before sunset. This dew was on the leaves of elm trees, as a general thing, or in the vicinity of elms. The leaves were perfectly covered with aphides of a light color; and they were constantly discharging this honey-dew. When upon the wing, it would fall on the grass and shrubs in the vicinity. Bees confined themselves to the trees

on which it was most abundant. The color of the liquid they gathered was dark, somewhat darker than buckwheat honey.

J. BARBER.

Canton, N. Y.

[For the American Bee Journal.]

Early Swarming.

MR. EDITOR:—I have been for the past year a reader of your valuable Journal, from which I have gathered much information, particularly from the experience of others. As I am but a beginner in the science of bee keeping, I may be pardoned if I say, I have not been much benefited by the sharp shooting between the inventors of different hives. I am disposed to give Mr. Langstroth his just dues, and I am also willing that others should have theirs, if they honestly earn them, as he did.

Our bees, twenty-eight stands in number, came from the cellar in good condition, with the exception of one nucleus colony which was weak in numbers; and also one black colony which had consumed all their stores. These we commenced feeding with a syrup composed of sugar and honey. On examining them some days ago, we found brood in all stages. We then gave them a full sash of honey, and thought them all right. The next morning, to our great surprise, they all left the hive, and after flying around in great confusion for some time, they clustered in front of a hive occupied by Italians, and commenced entering. Then began a terrible combat—the Italians determined to reject the intruders, and the blacks equally determined to force an entrance. Seeing there was no way to separate them, I sprinkled them with water rather strong with peppermint, and soon all fighting ceased. Finding the black queen, we destroyed her, and the bees united peaceably, making a *very strong* colony.

Only a few days after this occurred, we were informed by a gentleman, that a swarm of bees were clustered on the fence, a short distance from the house. In company with my brother, I proceeded to hive them. At first they entered the hive and seemed contented, but in a short time they rushed out again and clustered on a fence post. We then procured a sash of brood, which being placed in the hive, the bees gladly entered and were carried to the house. As they were strange bees, we knew nothing of their former condition, but found on examination, they were without a queen. They seemed quiet and contented till the afternoon of the second day, when they with one accord came pouring out and seemed determined to leave. As they were much scattered and flying high, I thought of Ignoramus's looking-glass, and tried the plan, as the sun was shining bright. It soon confused them, and they again returned to the hive. That evening we united them with our weak nucleus colony, which has a good Italian queen, and they are now working contentedly together.

I should like if some of your more experienced readers would give me the reason for such premature and wholesale swarming, so early in the season as the 30th of March and 2d of April.* At this date the bees are working industriously, gathering much pollen, and all the colonies have an abundance of brood.

MATTIE M. PASCHAL.

Pella, Iowa, April 8.

* These were doubtless "starvation swarms," with which the box and straw hive bee-men were and are oftentimes unpleasantly familiar in early spring.—ED.

[For the American Bee Journal.]

Frames of the Bay State Hive.

The Journal for March was duly received and contents digested. We intend to write an article for which we have no particular text; and if we had, we might be tempted to run off the track, for the sake of hitting some one across the knuckles, as some of the correspondents have done in the last number of the Journal.

We judge that about fifty bee-keepers have written to us to know the dimensions of the frame we use in the Bay State Hive. We took a notion to go to Boston a few days since, and had a cut made of our style of frame. Somehow or other, we blundered into the office of M. M. Tidd, the artist who made the cuts for Mr. Langstroth's book, "The Hive and Honey Bee." Of course we found a man who understood his business. Well, after talking a while about the "King of Bees," as well as of queen bees, we struck a bargain to have a cut made of our style of frame, and now send it to the Journal.

I will describe it in the best manner I can. The part that I meant to make most conspicuous, however, shows the least. I refer to the bottom strip of the frame. Instead of nailing a piece to the bottom ends of the frame, as with the Langstroth frame, I use a piece $\frac{5}{8}$ inch wide by $\frac{1}{4}$ inch in thickness, and cut just long enough that it will rub down into the hive, but not go hard. The ends of the side pieces of frames are $\frac{1}{4}$ inch thick by $\frac{7}{8}$ inch wide, and $17\frac{1}{2}$ inches long. In the bottom end a groove is cut with a saw $\frac{5}{8}$ inch deep by $\frac{1}{4}$ inch wide, so as to let the thin strip in flush with the bottom ends of the frame. The bottom ends of the frame are made wedging so that they will slip down the little wire staples seen in the cut. The ends of the bottom strip project beyond the ends or sides of the frame, and have the corners cut off, so that they will

not catch in the entrances of the surplus boxes when they are being taken out.

It might appear that so deep a frame could only be removed with difficulty; but this is not the case. The frames are arranged so that they cannot hang out of true at the top or bottom; and after they have been once removed, they can be handled as easily as the shallow frame. Well, we won't say much more about our hive now, but will say something about how our bees have wintered.

As it has been said that the Alley hive is not wintering well, I only desire room for the following letter: "You asked my opinion of your hive last fall. Not having tried it then in every respect, I could not say how I liked it. But now, having wintered seven swarms in them *with perfect success*, I can say that it cannot be improved for wintering bees on their summer stands. One swarm was a late second swarm, that did not fill more than one-third of the frames with combs. I had to feed them in the fall, but to-day they are flying lively and in good health; I simply put a quilt (Bickford style) on top of the frames, and no other *protection*, though the thermometer was at times as low as 18° below zero. S. C. WARE, *Towanda, Ills.*, March 2, 1871."

I have reports equally as favorable from other parties, but as this came to hand just as I was ready to mail this article, I concluded to send it as a sample of what we have on hand.

H. ALLEY.

Wenham, Mass., March 8, 1871.

[For the American Bee Journal.]

Bees in Alley Hives.

MR. EDITOR:—As others are giving their experience, I would like to say a few words in regard to the Alley hive which I purchased last spring. I put a swarm in it on June 10th, and they very soon filled all the frames in the body of the hive and began storing honey in the side boxes, and if the weather had not been extremely dry and hot, I think every surplus box would have been filled. As it was, I got sixty pounds of beautiful white honey, without a particle of bee bread in it, and plenty of honey in the frames to winter the stock. I noticed that the bottom boxes were all filled first.

I took off the honey board and placed a piece of old carpet on top, and around the sides I put some clean rags about the end of November. They are in fine condition at this time, having been on their summer stand all the winter. I think it a capital hive for wintering out doors, as the bees keep so quiet.

I have other kinds of hives, but so far the Alley hive pleases me best. I am only a young beginner, and am going to have another style of hive from a kind friend, who has promised to send me one this spring. I will report to you next fall how I succeed.

With best wishes for the success of the Bee Journal.

C. CHESTERMAN.

Dyersville, Iowa, March 17, 1871.

[For the American Bee Journal.]

Wintering Bees in the Bay State Hive.

MR. EDITOR:—My bees have wintered well. I have several stocks in old fashioned hives, and in them all the comb run from side to side, regardless of the "natural way," and the rear combs are filled with brood. A large portion of the bees in my Bay State and Langstroth hives, have clustered to the top of the frames, and above them, under the flannels all winter. I think they do better in the Bay State hive. I have thirteen of them and intend to make forty more. Mr. William Noyes, of Seabrook, N. H., has several kinds of hives. Among them are the Langstroth and Bay State. To the latter he gives the preference. I have seen in the Bay State the rear combs built first.

I have had several queens from Mr. Alley, and am satisfied with them. We like Mr. Alley to deal with, he suits us New England people—we being a little behind some of our western brethren. But, never mind, we say long live Mr. Alley, and may he meet with the success he justly merits.

BENJAMIN OSGOOD.

Amesbury, Mass., April 3, 1871.

[For the American Bee Journal.]

Bees in Alley Hives.

MR. EDITOR:—In the February number of your Journal, page 187, I see an article from the pen of our friend E. Gallup, in which he says that it is almost impossible to get the queen to breed in the rear frames of the Alley hive, and that it is the last frame that the bees fill. Now I have used the Alley hive two seasons, and in every case they filled the rear frame first, before they filled some of the front ones, and the queen laid readily in that comb. I have seen both sides of the rear comb filled with brood, while there was yet none in some of the front ones.

I was not aware that Mr. Gallup had used the Alley hive sufficient to express his opinion in such strong language, but I suppose that a man of his experience can decide as to the good qualities of a hive in one season, better than we lesser lights can in half a dozen.

My bees wintered finely on their summer stands, with the protection spoken of heretofore. They began to gather pollen on the 19th of March, and are breeding rapidly. Success to the Bee Journal.

A. GREEN.

Amesbury, Mass.

That the food or jelly administered by the bees to their larvæ "must be exceedingly nutritious, may be inferred from its very nature, consisting, as it does, of the virile, energetic, and fertilizing powder of plants in the concentration of their living principle."—SCHUCKARD.

That bees feel pain may be assumed from the evidence we have of their feeling pleasure.—SCHUCKARD.

[For the American Bee Journal.]

Hopes and Expectations.

MR. EDITOR:—I have been reading several stray numbers of the Bee Journal, and find that many of the persons who therein hold forth give a greenhorn a good deal of sound advice. I was raised among bees and bred on honey until the present time, and there are no indications at present of my appetite for honey failing this season.

Our apiary is about forty years old. I am grandson, and son of a bee keeper, and having been dyed in the wool, I am also a bee-keeper. Our apiary has been afflicted with many patent hives, and it is a wonder that they have survived, some of the outlandish things in which they have had the good nature to remain. I never progressed much in bee management until I devised a simple movable comb hive—a non-patented, non-reversible, revolvable, upside down bee hive.

I am now preparing to go it with my eye open to the science of the thing—movable combs, glass boxes, honey emptying machines, wax-extractors, Italian queens, &c., &c. If you, Mr. Editor should happen to hear of any grand improvement, please put a flea in my ear, and I will go for it (the improvement, not the flea).

I expect to whirl out tons of honey this summer. Each swarm ought to make about two hundred (200) pounds, providing the season is the best ever known. If I had time I would figure out the facts to your entire satisfaction. I could demonstrate it very easily if I was owner of a patent hive or moth trap; but will have to forego the pleasure of astonishing your readers until some future time.

The last season was rather tough for our little pets. The drouth dried up everything in the form of honey. The poor suffering bees would hum around very anxiously, searching every plant and flower, far and near, and then return to their hive with a mere taste of honey, and looking as discouraged as a hen pecked husband. I admired their patience, however, under the circumstances, and in the fall rewarded their precious little gizzards with several doses of honey; and during the winter I also passed around several sticks of candy among each community, and I believe the cute little fellows would just as lief pass the whole winter in sucking candy. My candy swarms are now just as lively as crickets, and waiting impatiently to gather tons of honey.

I wish to thank Mr. "Novice" for his elegant bee feeder and would willingly send him a few boxes of honey for his idea. It is just the handiest feeder in the world. It may interest you to know how I use it. In the spring I remove the cobs from the frames. (I always use cobs to absorb moisture,) and fit closely over the top of the frames a large piece of water-proof paper, cut a hole a little smaller than the feeder, directly over the cluster, and set the feeder over the hole. By this method, everything is kept neat and tidy.

In the proceedings of the Cincinnati Bee-keeper's Convention, I see that some of the wise heads that convened there, propose to make candy from mel-extracted honey. They did not give the process. I should like to know how the thing is accomplished. If the operation is "*not dangerous*," I would like to experiment as to the profitableness of the process. If some of your unselfish correspondents, "Mr. Novice," for instance—would be so kind as to let the process be known, who knows but that great results would flow therefrom. Honey is getting to be so plentiful that every bee-keeper should carefully study the nature and the combination of its elements with other substances; and perhaps something valuable would be the result of patient experiment.

Now, Mr. Editor, I will not further trespass on your valuable time and good nature. Should I discover anything new about honey or bees, I will give you the first imformation, wishing you success in bee and business matters.

SCIENTIFIC.

Hartford, N. Y., March 13, 1871.

[For the American Bee Journal.]

A Metallic Hive.

MR. EDITOR:—With your permission I will give the readers of the Journal a little sketch of my experiments with a metallic bee hive. In the first place I use the common hive, with the exception of a cap (or spare honey box), of the same dimensions as the hive, and of the same material. My bees are in log gums, square plank hives and sheet iron. The latter well painted in and out, and a thin coating of plaster inside. Before I put a swarm in them, I give them a thin coating of melted beeswax, using a ravelled rag for my brush.

My hives all stand in a row, under a cover of four feet boards, and on a flat stone, ten inches from the ground. There they stand, winter and summer.

It was four years last June since I first put bees into a metal hive, and I was thoroughly convinced *in one year* that they would prove to be moth proof; and I have seen nothing since to cause me to change my views. On the contrary, I have seen much to confirm my convictions; having seen no sign of moths or their webs in the iron hives, whilst all the others were more or less injured, and in some the bees killed outright.

So much for facts (taking my word for it). Now for theory. First, it crosses the instinct of any insect to lay its eggs upon a mineral or metal. Second, it crosses the instinct of the moth to have no wood or something of a fibrous nature out of which to manufacture its web. And, third, the moth destroys the bees by fortifying itself against the attacks by webbing itself up.

I would like also to say wherein the metallic hive would be proof against foulbrood, but forbear.

A. F. COBB.

Chapel Hill, Mo., Feb. 14, 1871.

[For the American Bee Journal.]

Side Gathering Hives.

MR. EDITOR:—I see in the Journal of February last, page 173, Novice fully endorses the side gathering of surplus honey, referring to Langstroth and all works copied from his, as evidence of his correctness. "From fifty to one hundred per cent. more surplus honey will be stored in the body of the hive than on the top in boxes."

I have been using the two-story Langstroth hive for a few years past, and find the statement of Novice correct. To get a large yield of honey we must turn them to side gathering hives, by bringing up a part of the combs, bees, and brood, to the upper chamber, and work the bees at the side of the brood in empty frames. But the thought presented itself about two years since that it would be better to increase the depth of the frames and the width of the hive, and thereby place the room of the second story on each side of the frames of a one story hive, for surplus. And it has proved true, for five "several reasons." First, I can place twelve six pound boxes inside of my hive, six on each side of the frames. Second, if we wish to ship honey in the frames, make the frames two inches less in depth, and the bees will cluster under the lower bars as they approximate the bottom of the hive, and the combs are fastened to the bottom bar as effectually as when in the upper story. Third, when we want to empty honey with the extractor, convenience presents itself at once. Fourth, when honey is being stored in the boxes, and the frames in the center of the hive gets too full of honey, so as to require emptying, to give the queen room to desposit eggs, so soon as the lid is removed we are at the frames, without having previously to remove half filled boxes and the honey board, which is a great inconvenience. Fifth, in the removal or exchange of queens, the removal of the lid lays the frames bare. The work is done without removing a box.

A. SALISBURY.

Camargo, Ills.

[For the American Bee Journal.]

Bees and Grapes.

On page 210 of the March number of the Bee Journal, Mr. J. L. Peabody wishes to know if bees injure grapes. Some eight or nine years ago I planted a small vineyard of three acres. While at work planting my vines, a friend came along and advised me to stop planting grape vines, as my bees would destroy all the grapes I could raise in the neighborhood, not to mention three acres. He figured up how many bees were in my apiary of a hundred hives, and supposed each bee would destroy one or more grapes per day, and thus made out that an enormous amount of grapes would be destroyed, in a month. I laughed at him and continued my planting, and can safely say that I have not had a bushel of grapes injured by bees, since they began to bear—five or six years ago.

Some years, when honey was scarce, the *wasps* would attack some few grapes; but the bees would drive them away, and then suck out the sweet. I have also had grapes in my garden for twenty years, within three rods of my bees, and before movable comb hives came in fashion. I had a bee-house and trained grape vines around and over it, to shade it, but I never knew the bees to injure the grapes.

I think the trouble with Mr. Peabody was in the grapes, and not in the bees. It is likely that his grapes had taken the "grape cholera," or some other disease, that caused them to burst open and gave the bees admission to the sweets.

H. NESBIT.

Cynthiana, Ky., March, 7, 1871.

[For the American Bee Journal.]

Proper Size of Honey Jars.

MR. EDITOR:—I see much said of the extracted honey; but the people will give little or no more for it than for strained honey. Now, what I wish to know is, how to put it up. I have put it in quart cans, in pint cans, and in half pint cans. When in quart cans, the buyers say they are too large; and when in half pint cans, too small. In pints some think them too large, and others too small. How shall they be made to suit? And what will extracted honey settle down at? How may it be kept from candying, and not change to a dark or slate color, by time?

I use a machine some, but would use it much more, if the honey would sell for what it is worth. But people are used to eating what their stomachs cannot digest, in the shape of wax, which even the strongest acids will not dissolve, instead of the pure honey as stored by the little bee.

Many persons want the honey in nice white comb. Now what is the empty comb worth to the bee-keeper? That is a point well worth considering. Will bee-keepers ascertain its value in their business, and then charge accordingly for honey in the comb? Then, and not till then, will machine rendered honey sell at a fair price. This is my view of the matter. Am I right? or if wrong, will some one kindly set me right.

J. H. HADSELL

Brecsport, N. Y.

[For the American Bee Journal.]

Devices that are no Inventions.

MR. EDITOR:—I am glad to see so many of your correspondents pitch into the humbugs called movable comb hives, which are neither more nor less than the Langstroth hive infringed on by some useless addition or change. I have five different kinds of patented hives in my apiary, and the Langstroth hive produces double the amount of surplus honey than any other I use. As for wintering bees in them, they are as good as any other. When left on their summer stands, I take off the boxes and cover the holes with corncobs, five or six deep, or old carpet, or old clothes, close the back entrance, and also the

front, except about two inches. I have wintered my bees in this way three winters, and have not lost any yet. My bees swarm as early as those in the tall hives that Mr. H. A. King sends out here, with a marble finish on them. I wish Mr. Langstroth would clean out the whole of them. They are taking the bread out of his mouth. Because he is a poor man, and they know it, they have imposed on him. May he live long and enjoy good health, is my wish.

My bees commenced bringing in pollen on the 6th of March, from elm trees and soft maples. This is the earliest I ever saw them do so, in this section of country. We look for a good season here for surplus honey.

H. FAUL.

Council Bluffs, Iowa, March 19, 1871.

[For the American Bee Journal.]

A Lady Beginner's Report.

As I am a beginner in bee-culture, I will state to you in part my success.

I commenced last spring (1870) with seventeen stocks of bees. One of the number had an Italian queen, and two others hybrid queens. I had never opened a hive of bees, but with an assistant as inexperienced as myself, I determined to make the trial; so to work we went, with fear and trembling, lest we might make a mistake and the bees become enraged. But we succeeded, as we think, admirably. We found one stock queenless, with several others in almost a starving condition. We equalized them in honey and brood, and fed them Graham flour.

By the 10th of June most of the stocks were strong. We increased the number to thirty-three; then reared and successfully introduced eleven fertile queens. I have seven black queens left, and intend to get rid of them as soon as possible, as I believe the Italians are far superior to the black bees.

My Italians and hybrids did much better than the black bees, with just the same advantages. The hybrids are the crossest bees I have. I have sold $100 worth of honey and bees, and now have twenty-seven stocks in the cellar.

Feeling encouraged by my success last year, I intend making bee-culture something of a business. I use the Langstroth hive, made somewhat deeper than the ten sash hives, and holding nine sash.

I received the Bee Journal last year, sent to the address of my husband, and as I have received the last number due me, and cannot think of missing a single number, you will please find enclosed two dollars, which will secure its welcome visits another year.

MRS. K. A. D. MORGAN.

Pella, Iowa, March 9, 1871.

The bee gives us honey, and we give the wasp *whacks* when we catch him.

[For the American Bee Journal.]

Surplus Honey Boxes.—Large boxes vs. Small.

MR. EDITOR:—We would like to agitate this question—would it or would it not be better for apiarians to have their honey stored generally in large boxes? We learn from nearly all to whom we have put the question, that a strong swarm will fill a ten or fifteen pound box nearly as soon as they will fill a six pound box. If such be the case, the large box is the one to use, to gather the most number of pounds.

Now let us see about the demand and price of the respective boxes.

Small dealers in honey generally prefer to have small boxes, which save the trouble of cutting it as it is sold; and they are naturally willing to pay more for it in that shape. But if apiarians can dispose of their large boxes at the same price, per pound, and can sell all they can have stored, with as little trouble as their small boxes, it seems to us that it would be better to use the large boxes generally.

Our experience the past season has been that, while we always had a fair supply of small caps, we were short of large caps three-fourths of the time.

We would say to apiarians that we will contract for any amount up to *one hundred* tons of white honey in *large caps* or *frames* of any size, so that they are not over seven inches deep, to be sold net weight, and to be delivered as early in the season as will be convenient to the shipper. We believe that this matter is of as much importance to the honey raising community as to ourselves.

To those who have no knowledge of us, we will say that we started business in 1865, as *Honey Merchants* exclusively, in Cincinnati, Ohio, and have since extended our business westward to St. Louis, Mo.; northward to Chicago, Ills., where we now have our head quarters for the west, and eastward as far as Pittsburgh, Pa. We have labored hard to make honey a *standard commodity* in these cities; and the fact of our having handled nearly two hundred tons the past two years, proves our success.

We have permission to refer to a number of Bankers and Merchants, east and west, and the principal apiarians in the west, whose names we will be happy to furnish to those desiring them.

C. O. PERRINE & Co.

Chicago, Ills.

[For the American Bee Journal.]

Save the Queens.

Bees should not be allowed to supersede or destroy a good queen, which they sometimes do in some of our most valuable stock hives, when very rich in stores, and more especially when flowers are abundant. Why?

In some stocks deficient in stores, and when no feed is to be obtained, they persevere until the queen is renewed, if allowed by the keeper. Why?

In extra strong stocks, made so by an extra prolific queen, the bees renew their queen. Why?

In introducing queens it is not always a perfect success, though she may be accepted for the time. After a few eggs are laid, the bees start cells several times after being destroyed by the keeper; and less and less eggs are laid by said queen until finally she is *non-est.*

If cells are started, remove the queen and build her up a stock with brood combs and bees, and generally she proves her good qualities after being fed by her adopted stock, or her own bees.

If bees swarm and are put back, or the queen gets frightened or refuses to go with the swarm, or falls down with the burthen of her eggs, thereby proving her to be an extra prolific queen, the bees will generally persevere until she is killed, or a young swarm is sent off, and the queen is generally lost in the melee. I have saved such queens two years in good condition, and it may be done longer. Give them room to lay, or rest, as the case requires.

Robber bees may enter some stock, attack the queen, or change her scent or deportment, so as to frighten her bees and induce them to start queen cells.

A queen may acquire an offensive odor from being taken in the hand, or by picking her off one comb and placing her on another; and the bees will start cells to replace her. Is there any better way to save such queens than to remove them?

J. M. MARVIN.

St. Charles, Ills.

[For the American Bee Journal.]

Raising Queens.

At the request of a correspondent, I give a few words about using the nucleus hive, described in the BEE JOURNAL of October, 1870.

All that is wanted is in some way to get in each compartment a frame of comb with bees, and a sealed queen cell taken from a full hive.

When the time comes for raising queens, select a hive to be used for that purpose; find the queen, and put the frame she is on, together with the adhering bees, in one compartment of your nucleus hive. This, of course, leaves the hive from which the queen was taken (which we will call hive A,) queenless, and the bees will immediately go to raising queens.

In about ten days queen cells will be sealed over, when a frame containing one or more queen cells may be put in each compartment of the nucleus hive, together with the adhering bees; and the bees from another frame may also be brushed into each compartment, and the frame returned to hive A. If hive A has been flourishing, so that it contains a good many young bees, your nuclei will need no further attention. All the older bees will fly back to hive A; and if there be only a few bees in the nucleus, it may be well to fasten them in for a couple of days when the nucleus is first formed. Frequently the queen cells will be all found on one or two frames, and in that case, a cell should be cut out for each nucleus that lacks one.

The queen that was taken from hive A and put in the nucleus hive, may now be returned to hive A; and as soon as the frame from which she was just taken in the nucleus hive, has queen cells started on it, insert a sealed queen cell. If the queen cell is inserted when the queen is first removed, the bees will destroy it. The bees in hive A will accept their queen without caging.

If, however, you wish to raise more queen cells, instead of returning the queen to hive A, take a frame of comb from hive A, brushing off the bees, and after taking the frame containing the queen out of the nucleus hive, insert this empty frame in the nucleus hive, and brush the queen and bees down upon it. The frame you have now removed the bees and queen from, will of course contain eggs and larvæ. Put it into hive A, and the bees will immediately start queen cells on it. These cells, as soon as sealed, may be given to any of the nuclei, which have failed to raise a queen.

You may commence operations for raising queens as soon as drones appear, or as soon as drone brood is sealed over, probably about the first of May, in the Middle States.

As often as a queen is removed from a nucleus, give it a queen cell, and let the bees raise another queen. Your nuclei will raise queens by simply giving them young brood; but unless they are quite strong, you had better give them sealed queen cells from a full hive.

In the matter of

ARTIFICIAL SWARMING.

I generally adopt a plan that I learned, I think, from Mr. R. C. Otis. Suppose you have two hives, No. 1 and No. 2, both strong, and an empty hive, No. 3.

From No. 1, take frame after frame, brushing back *all* the bees into the hive, until only two or three frames are left; and as fast as the frames are emptied of bees put them in No. 3. Fill up the vacancies in both hives with empty combs or frames.

Remove No. 2 to a new location, and set No. 3 in its place. The returning bees from No. 2 will supply No. 3 with a good colony and will raise a queen; but it will save time if you furnish them with a fertile queen from a nucleus. To do this, as soon as No. 3 has started queen cells, which will be in two or three days, simply put in the queen at the top of the hive, or at the entrance, without caging or any precaution whatever. I have not yet found an exception to the rule that *a queenless colony which has queen cells started will readily accept any queen, fertile or unfertile.*

I am asked whether the Peabody melextractor will suit any but the Langstroth frames. I think it will suit any frame in use, but I have never tried it with any but two kinds.

C. C. MILLER.

Marengo, Ills., Feb.. 1871.

Water is absolutely indispensable to bees when building comb, or raising brood.

[For the American Bee Journal.]

Fertilizing Italian Queen Bees.

There have been quite a number of ways given to secure the pure fertilization of queens in confinement, yet there are very few persons who appear to have any success. I have a neighbor, with whom I became acquainted last fall, who says he has not failed once in getting queens fertilized by drones from any stock he may select. He showed me two queens which had been fertilized, that had no wings, but merely small rudimental bunches where the wings should have been. I was very busy at the time, and it being then late in the season, I did not try it, but intend to test it thoroughly the coming season. He said he had tried many different ways to get queens fertilized by Italian drones, and had at last found one by which he always had good success, having never failed when he tried it in a full stock of bees.

He selects a stock with plenty of the best drones, and sets it fifteen or twenty rods from any other stock, and as soon as the queen hatches, he clips one wing. He then raises a bed of saw dust three or four feet square, lays thereon a good broad bottom board, and sets the hive on it, so that the queen can crawl back when she comes out. He has tried queens in this way for three seasons, and they are all very prolific. A queen can be introduced from any stock, and in and in breeding thus prevented.

G. M. DOODLITTLE.

Borodino, N. Y., March 11, 1871.

☞ It seems to us that the process above mentioned is more likely to be uniformly successful than any other yet suggested or tried.—ED.

[For the American Bee Journal.]

Fertilization with select Drones.

When a safe and sure method to secure the fertilization of queens with select drones in confinement is devised, the inventor will deserve the same honors now conferred on Langstroth for his invention of the movable frame hives. There are parties now claiming to have made such discoveries, but, whether such claims are *valid*, remains to be tested. I could heartily wish they were, but I rather fear the statements are exaggerated. At least, until I can succeed myself with their methods, I will not credit such statements as have appeared at different times in the Journals, as being successful in *every* case.

I will give my experience the past season, with their various methods, as I found them described. I hope other writers for the Journal will also give nothing but the plain, naked, and unvarnished *facts*, and on both sides, the dark as well as the bright.

Early in the spring I received Dr. Jewel Davis' circular—Queen Nursery; but as it was not in connection with a method of fertilization, and as I could never get bees to accept an unimpregnated queen, I thought I would wait until others tried it. If friend Davis had sent me one on trial, I would have given it a *faithful* one.

I prepared a number of cages on Mitchel's plan, described by him in his paper—expecting to be sure of success, as he told us we wouldn't fail but *one* time out of *ten*. Well, my experience went the other way, for I didn't succeed *one* time in *ten*. I also prepared several other methods, such as honey caps, 3 x 4 x 6—the ends, bottom, and top, wood; wire cloth on one side, and glass on the other; and three one inch holes in the bottom, covered with wire cloth. Also, a number of small cages, two inches by three, fastened to a board an inch and a half wide and a fourth of an inch thick, fitted in the hive in place of a frame. These were for cells to hatch in; but every queen died before she was five days old, although each cage had sealed honey in old comb. The other cages I tried in almost every conceivable way—inside of the hive, on the top, in dark rooms, some with workers, and some without, until I became sick of losing so many valuable queens. I failed in every instance, except two or three, which I will describe and leave to the readers of the Journal to say whether I was successful. The first was with one of the first queens raised, a beautiful and lively queen, but with no wings. The weather being very rainy for several days, with no signs of clearing off, I put her in the fertilizing cage on the morning of the fifth day, with eight selected drones. Then put the cage down into her stand (a full stand). In noticing her a while after, say about one o'clock, on raising the cage to the light, she made several attempts to fly in the cage, and hopped on the back of a drone and stuck fast. Here I was compelled to close up, by the falling rain. Next day, I noticed a dead drone. Queen all right I thought I would follow out Mitchel's directions of forty-eight hours. Well, what did I find at the end of the forty-eight hours? Two dead drones, and a dead queen besmeared in honey that had dripped on the bottom.

The next one in which I think I succeeded, is this. I put three queens, just hatched, in three of the small boxes above described, with about one hundred workers in each. These I put in a dark room until the fifth day, when I took out all but five workers and then put five drones in each. These drones were so selected at one o'clock, just as they were leaving the hive, put in boxes back into the dark room (which was also warm) for thirty-six hours; at the end of which time there two dead queens, and from one to three dead drones, in each. I immediately introduced the living queen, by means of tobacco smoke, in a nucleus that had been queenless for five days, and on the second day she was laying. I was either successful in this case, or the queen came out and met a drone the same day that I introduced her in the nucleus.

In my correspondence with D. L. Adair, I told him I had failed with Mitchel's plan. He answered that he had too, but that he had no trouble with one of his own; and that if I would try it, according to his directions, he would send me one. I wrote, and got one in due time. I thought it a very ingenious device, and that it would prove successful. I immediately transferred bees and comb to it, sent for select drones

to friend Nesbit, as I feared all my best ones were killed off—which fear proved to be groundless, for I had drones the first week in January, and probably have some now. Well, friend Nesbit's drones came, just as the queen was two days old. By the way, I was careful not to have a single drone in the nucleus when transferred. I now put on the fertilizer, adjusted the entrance so that a worker could just *squeeze through*, then put in the drones, which were besmeared with honey as I took them out of the transporting box. The bees immediately commenced licking them off, and they were received all right. On the third day after, I saw a dead drone. By the way, Mr. Adair says the queen will fly against the glass, whenever the cover is lifted off; but I could never see her do so. On the 9th or 10th day of the queen's age she was laying. I thought I was positively sure I had succeeded this time and the next; but the third trial puzzled me. I believe the third trial was made as carefully as the first two, and I thought I had the same success, until the young bees began to emerge from the cells—sheer hybrids. Now how this happened I am unable to say, unless the queen got out at the entrance, as the workers did, and met a black drone.

Hurrah for *Novice*. He has gone to the camp to make maple sugar, with all his bees; and is going to tell us how to put our bees at it free of charge! *Well, all right!*

R. M. Argo.

Lowell, Ky., Feb. 11, 1871.

[For the American Bee Journal.]

New Process of non-flying Fertilization of Queen Bees.

Mr. Editor:—When last in Washington, you showed me a letter from one of your correspondents describing what he conceived to be a successful method of non-flying fertilization of queen bees, as devised and employed by one of his neighbors. It seems to me that his plan, or something akin to it, promises more success than any one hitherto devised, as it seems to be almost perfectly in accordance with the instincts of the drones and queens. He says that if a hive set on a mound of sawdust, some three feet wide and two feet high, the young queen, with her wings clipped, when she comes out to meet the drones, is easily seen by them and speedily fertilized. When the queen is confined with the drones, both queens and drones are in an unnatural position, and seem to exert most of their energies in trying to escape. But by the plan mentioned by your correspondent, the queen comes out at the proper season, just as though she were capable of flying. The drones are in full flight, leaving the hive and returning to it. Being elevated above the surface of the mound upon some light substance, she is quickly seen by them, and it seems altogether probable that, in most instances, fertilization will take place and the queen return to her hive. When young queens, whose wings are imperfect, come out in the ordinary way, they fall upon the grass or ground, and are not in a position to be noticed by the drones.

I shall give this plan a full trial the present season, and hope that many of our correspondents will do so also. If it is found to answer, it could easily be modified so as to be made serviceable on a large scale. I do not suppose that there is any peculiar virtue in sawdust, except that being light and elevated, the queen is seen to advantage by the drones. Perhaps a platform over which cotton cloth is stretched, might be found to answer even better than a mound of sawdust. The hive containing drones might, from time to time, be supplied with hatching drone brood from our choicest queens. Entrances might be made on all sides of this hive, and nuclei might easily be placed in position on different sides, so that drones entering and leaving on all sides, would see the queens from the different nuclei. The expert will easily understand how, by small boards, these nuclei may be so separated from each other that the queens will be almost sure to return to their proper colonies. Should there be danger of the queens crawling over these boards, by rubbing their surfaces with chalk, they would be unable to do so. As soon as the queen of any nucleus is known to be fertilized, she might be removed, and a nearly matured queen cell, or a just hatched queen, put in her place. In this way a few colonies separated a few rods from the main apiary, and containing the drones from which we wish to breed, might be made to serve for a very large number of nuclei. It is only within a few years that the necessity for non-flying fertilization has been felt, and sooner or later unquestionably some practicable method for accomplishing it will be devised.

L. L. Langstroth.

Oxford, Ohio, April 13, 1871.

[For the American Bee Journal.]

Natural and Forced Queens.

I watched the discussion of this subject in the Bee Journal for some time, with quite an interest; but, after hearing both sides of the question, I am left to do as I always have done in the propagation of queens. I have been propagating queens for several years, for my own use and the public as called for, but not making it a speciality. I received my first instructions from Rev. L. L. Langstroth, and always rear my royal cells in strong colonies, and from the egg or larva just hatched—feeding the colony with sugar syrup every evening when forage is not abundant. In regard to the longevity and fertility of such queens, I have found no difficulty.

With the introduction of the Italian bee, some years since, in my apiary, I commenced raising queens, and in a short time my bees appeared as though making an effort to overstock my apiary, which never occurred while operating with the black bee, and under the old system of natural, hardy, and prolific queens.

My attention was never called to the speedy

mortality of forced queens, until drawn to it by the articles in the BEE JOURNAL. True, out of a hundred or more colonies, I would occasionally lose a queen under a year old; but I thought, and yet think, it to be only incidental mortality, which holds a sway over all animated nature, leveling in the dust the infant of days, as well as the man with hoary locks.

Queens reared from larvæ too far advanced towards the chrysalis state, are worthless. How many days old the larvæ may be and yet make good queens, I am unprepared to say, but suppose they should not be over three days old. In the summer of 1867, I gave to bees in a nucleus, eggs fresh laid from which to propagate a queen, but saw no signs of a royal cell until the tenth day, when one was just started. When the queen hatched, the only perceivable difference from a worker was in the taper of the body and the shape of her head. She never laid any eggs, but soon disappeared from the nucleus. As a general rule, all feeble queens at hatching, and that do not lay eggs the first week after copulation, should be discarded; but in very early spring or late fall, this rule will not hold good. To develop large and healthy queens, rear the royal cells in a hive crowded with bees. It is not necessary that the hive should be of full size, so it holds three or four frames of the size used in the apiary. Never remove the cell to a smaller nucleus, unless crowded with bees, until two or three days before the time to hatch. When about maturity, they are harder to chill, and hatch out stronger, than if removed earlier to more feeble swarms. To know when to remove the cells, you must know whether you introduced eggs or larvæ. If larvæ, then their age, as queens, will hatch in sixteen days from the egg, and sometimes sooner, in very warm weather, with good forage. When larvæ are used, examine if there are any advanced grubs. If so, destroy them, by inserting a small stick into the cell, sufficiently hard.

It is a fact known to some, and probably many leading bee keepers, that when forage is right and the atmosphere warm and damp, Italian bees in large apiaries will swarm off by the dozen swarms per day, leaving no preparations for royal cells. But I never discovered that forced queens under such circumstances were less prolific or shorter lived, than under other circumstances. Yet it may possibly be so, though not very probable.

A. SALISBURY

Camargo, Ill's.

[For the American Bee Journal.]

Transferring Bees.

I have had some experience in transferring bees from box hives to those having movable combs, and think my experience may benefit some of the readers of the Journal. I have transferred bees in June, October, November and March. The time recommended by most writers is when the apple trees are in bloom, but my experience proves that March is a better time than later in the season. At that time there is little brood in the combs, and the bees may be transferred with little disturbance to breeding operations; and then, when the breeding season has fully come, they are ready, without further hinderance, to proceed with their work. I have four stocks that I transferred early in the present month, and they are all doing well. I opened one of the hives yesterday, and found sheets of comb nearly full of brood from top to bottom.

There is a prevalent opinion that bees must secrete wax in order that they may repair the combs and attach them to the frames; but this is a mistake. Whoever will examine the repairs they make, will find that the wax used is taken from the combs repaired, as the new work is of the exact color and quality of the comb repaired or attached to the frames. Combs put into frames in March, when no wax was being secreted, were securely fastened in a few days, so that the sticks by which they were secured in position could be removed.

There are only two dangers in transferring thus early—robbers and loss of queens. I have had no trouble on these accounts. Robbers indeed made a brief attack, but by contracting the entrance to the new hive, the bees defended themselves with so much vigor that the robbers soon gave up the attempt. I cut the combs out of the old hives without first driving the bees out into a driving box. By using care, only a few bees were killed, and in every case, the queen was found to have escaped unhurt. I have transferred thirteen colonies, and have never lost a queen yet.

The stocks transferred in October and November wintered well, and are in fine condition this spring, except one that, by being neglected a little too long, starved to death. I put three weak colonies together, and when they were united in (October) they had not more than four pounds of honey. These I wintered on sugar syrup, and they are now doing well, and promise to repay with interest all the care they have received.

In a future number I may give my method of transferring bees to movable comb-hives, with such directions as will enable any one of ordinary skill to perform the operation without difficulty.

M. MAHIN.

New Castle, Ind., March 23d, 1871.

As the sun sinks his broad disk below the horrizon, to rise with new lustre—his rays leaping over the mountains; so the busy bee, excluded by the twilight, rushes forth at early dawn on buoyant wings, and from every floral cup sips the nectar of heaven, which darkness hid.

A. SALISBURY.

The entire economy of the hive seems to emanate exclusively from the two most prominent attributes of instinct, that of self-preservation, and that other more important axis of the vast wheel of creation, the secured perpetuation of the kind by the conservative and absorbing love of offspring.—SCHUCKARD.

THE AMERICAN BEE JOURNAL.

Washington, May, 1871.

☞ The issue of the April number of the Journal was delayed several days by untoward occurrences and vexatious disappointments, to which, as we could neither prevent nor control them, we had to submit "with the better fortitude of patience."

☞ We are indebted to the Hon. Horace Capron, Commissioner of Agriculture, for a package of choice vegetable and flower seeds, grown in France expressly for the Department—whereof we shall endeavor to make good use, and for which we tender thanks.

☞ Mr. King intimates to us that he "may conclude to accept" the offer of space in the Journal, "to reply to articles in the April number." Should he decide to do so, we trust the reply will be furnished in season for our next issue. Under present arrangements for printing the Journal, articles intended for any particular number, should be in our hand not later than on the 10th of the preceding month.

☞ Ther eport of the proceedings of the second annual meeting of the North Eastern Beekeepers' Association, held at Albany, N. Y., on the 15th of March, reached us too late for insertion in this number. We shall find room for it in our next.

☞ We have on hand a large number of communications from valued contributors, which shall have due attention as early as practicable. Even with the aid of small type we cannot always crowd in all the articles for which we desire to make room, though we give monthly nearly three times as much *bee matter* as any other paper, by actual measurement, and the quality of which, we conceive, squares well with the quantity.

☞ The communication on Italian bees, from the pen of Mr. Gravenhorst, of Brunswick, will, of course, arrest the attention of breeders and bee culturists. The writer is an experienced and successful apiarian and a careful observer, who, reading English familiarly, is well informed of the state and progress of bee culture not only in Europe but in this country likewise—knowing, from their writings, who are the prominent beekeepers here. It is, in fact, through the American Bee Journal, that many of our contributors are rapidly acquiring a European reputation. We find their articles frequently referred to, and many of them translated, in the Bee Journals of Germany, France and Italy, and favorably noticed in the agricultural and horticultural papers of Great Britain and Ireland.

☞ We request the attention of beekeepers who design to import Italian queen bees this season, to the advertisement of Messrs. G. Neighbor & Son, contained in this number of the Journal. It is an old established London house, thoroughly trustworthy. Mr. Edward Uhle, also, from whom queens ordered, will be procured, has had much experience as a breeder. The Baron of Berlepsch, in the new edition of his work on "Bees and Bee Culture, speaks of Mr. Uhle as one of the most intelligent and best qualified practical beekeepers in Europe.

The Queen Castle.

After our notice and description of this new contrivance had gone to press, we received the inventor's further account of it. He now substitutes sheets of perforated tin in place of the wire gauze for the sides of the castle, which are thus made more stanch, equally serviceable, and it is said cost less. Those who test this implement should be careful to have it properly made, in accordance with the inventor's de scription or idea. Failure with one differently con structed furnishes no argument against the genuine article, which is still spoken of abroad as being used with uniform success. Devices in the use of which success is the exception, are not the things we want; but where failure is the exception we may at least hope to be on the true track.

The queen castle has now been in use nearly three years in Europe, and we have *not heard* of a single failure there to accomplish the desired object. There may have been such, but, if so, they have not yet been reported, and this, after such a lapse of time, argues favorably. The chief reason for confidently looking for gratifying results from the employment of this device, is said to be, that the queen and her companions, placed therein, do not seem to be conscious of being in confinement, and deport themselves accordingly; nor do the bees of the colony under treatment appear to regard or treat the queen thus placed among them, as a stranger and a prisoner. What other matter is involved in the "philosophy" of the process that should always insure success, has not been specified, and we shall not even undertake to surmise in advance—leaving that to be speculated about when the *facts* are ascertained, if there be then room for speculation, or speculation be desirable. It was only after the application of the balance, that the Fellows of the Royal Society of England *knew* whether a basin of water weighed more after a fish was put in than it did before. At least so goes the story.

Dr. Dönhoff, of Rhenish Prussia, whose highly interesting and instructive experiments and observations on bees constituted a prominent feature of the Bienenzeitung ten or twelve years ago, but who subsequently became otherwise engaged, has assured the Baron of Berlepsch that he intends to resume his investigations and renew his correspondence.

Amount of honey imported into the United States, in the last three years, with the duty paid thereon, at the rate of twenty cents per gallon.

Year.	Quantity.	Value.	Duty.
1868	130,609	$71,899 90	$26,121 80
1869	140,596	78,639 85	28,119 20
1870	112,438	68,482 30	22,487 60

CORRESPONDENCE OF THE BEE JOURNAL.

BRUNSWICK, GERMANY, February 2, 1871.—We have had a very poor winter here for our bees. They have not been able to fly out since the beginning of December, and have thus been unable to discharge their fæces for nearly eight weeks. In January the temperature was at 12 degrees below zero. In these circumstances many colonies have already perished, and we are uneasy as regards the fate of those yet surviving.—C. F. H. GRAVENHOST.

SILVER CREEK, MINN., March 8.—Mr. W. H. Cutting, in this town, bought one swarm of bees last spring. From it he obtained one new swarm, and sixty (60) pounds of honey from the old, and thirty (30) pounds of box honey from the new swarm. Total, one swarm and ninety pounds of honey.—S. ROWELL.

BORODINO, N. Y., March 11.—My bees have wintered in the very best condition. They were weighed on the 9th of November, and put in winter quarters soon afterwards. I set them out on the 9th of March, and found by weighing that they had consumed on an average, a little less than four pounds of honey, or a little less than a pound per month, each hive. I found brood, (much to my surprise, considering the amount of honey they had consumed,) in three or four frames, in nearly every hive, and young bees, just hatched, quite plenty. The weather here is very warm for the time of year, the thermometer standing at from 85 to 90 degrees in the sun. My pure Italians seemed to be more quiet during the winter than either the hybrids or blacks, and consumed less honey. I have queens that produced workers which show the fourth yellow band, Mr. Alley to the contrary notwithstanding.—G. M. DOOLITTLE.

LE CLAIRE, IOWA, March 15.—This is the first day this spring that the bees worked on soft maple a rye meal.—G. L. GAST.

BEARDSTOWN, ILLS., March 15.—My bees did not do well last year. I wintered 175 colonies, some of them weak.—J. F. PAPPMEIER.

ALLENSVILLE, Ky., March 15.—The Journal is indispensable to all profitable bee raising. My bees have passed the winter well, and have been carrying in pollen rapidly since the 20th of February. The last season was very good here, from the 20th of May to the 10th of June. White clover is our sole dependence for honey. True, we have fruit blossoms which help us along some, but our reliance is on clover.—J. H. JOHNSON.

WILLOW BRANCH, IND., March 18.—My bees are all right so far, breeding finely and doing well. I can hardly wait from one month until the next for the Journal.—JONATHAN SMITH.

NORTH CHILI, N. Y., March 18.—I have ten swarms of black bees, which paid well during last season, and I now propose to go in and win; that is, I shall Italianize and use all means for success. I think one of the needed appliances in such a case is the Journal.—JAMES NEEL.

MADISON STATION, TENN., March 20.—The spring has been very favorable for bees here, and the little fellows are having a glorious time now, gathering honey from the peach, plum, pear, and red bud. If the weather continues as favorable as it has been, swarms will be ready to come out by the first of April.—S. S. HALL.

EAST TILTON, N. H., March 20.—Last season was a very discouraging one for bee business in this vicinity. A severe and protracted drouth was the cause. This winter has been a very remarkably open and changeable one, snow disappearing nearly two months earlier than in the generality of seasons. There was nothing like it within the recollection of the oldest inhabitant. Bees were set out on their summer stands from two to four weeks earlier than usual; but very few days have been warm enough yet for them to fly freely. Taking into consideration that we shall have fully one month or more, before the first blossoms will appear, I apprehend a trying time for the bees this spring. A year ago, I opened with seven stocks, increased to fifteen. Did not get a pound of surplus honey, and had to feed from seventy-five to one hundred pounds of sugar syrup to winter through. Set out the fifteen stocks about a fortnight ago. One stock has "gone up" already. Bee fever very sensibly abating, though still hoping for a little luck this year. I like the Journal, and cannot do without it, as long as I try luck on bees. Wish it came oftener.—J. B. R. SANBORN.

GHENT, OHIO, March 20.—Bees came out of their winter quarters in first rate condition, and we out here must have the Old Reliable, if it is to be had. It beats all what lots of pollen have been carried in the hives for three or four days past, for this season of the year, in our section of country. If the season continues as favorable as it has begun, we may expect early swarms.—T. PEARSON.

ALLEN P. O., IND., March 26.—I have seventy stands of bees, all in good condition, except three or four that are weak. They were wintered on their summer stands.—W. A. HORTON.

COMERSVILLE, TENN., March 28.—My bees are doing fine thus far this season. They commenced work about the 20th of February and have worked on up to this time. I saw newly hatched bees flying on the 10th of March. I have about eighty hives, and have lost only one since last fall, and it was queenless.—J. F. LOVE.

GONZALES, TEXAS, April 1.—My bees are doing well. Say to my northern friends that my first swarm came out on the 19th of March. I have had thirteen new swarms, and hived them all safely. Last year I had my first swarm on the 1st of April. Bees commenced storing honey on the 1st of March. I have never known them to work so fast. If the season continues good, I hope to make a large quantity of honey. All the bees are doing well. I wish to commence Italianizing next fall. I am working the black bees, but they are very good tempered. They rarely sting. My Bee Journal comes regularly, and I am well pleased with it.—L. M. COCHRAN.

WEST TROY, N. Y., April 3.—Bees have wintered finely in this section. Out of eighty-one (81) stocks wintered on their summer stands I lost but three, one of those by carelessness, and the other two I think were queenless last fall. They have taken flour for four weeks past, and seem to be breeding uncommonly fast. March 31, I saw them carrying in pollen from soft maple. If April and May should prove as good as last year, I think we shall have very early swarming; but it is very seldom we have April and May like last year.—W. M. STRATTON.

KansasCity, Mo., April 5.—Bees last summer made nothing. Many hives died during the winter of starvation. I am stimulating a few now, to keep them alive. Peach trees now are in full bloom here, and I hope I am about out of the woods, as I find feeding difficult. I am surrounded by fine bee pasturage, and think this the best place for bees I have ever lived in. White clover abounds. As I am a novice at the business I must go slow, (I find it does go slow,) as last season produced not a pound of honey.—F. Holsinger.

Berlin, Wis., April 10.—Vegetation is nearly a month earlier than usual, but now we are having a storm of sleet from the northeast. Our bees have wintered well here. Honey was good last season.—L. Beckwith.

Natchez, Miss., April 11, 1871.—To-day the weather is fine and bright. Our spring season has opened very early and favorably. The latter part of our winter was much milder than usual, and vegetation has put forth early and rapidly—our fruit trees blossoming much earlier than usual. My bees have improved their time accordingly. My first swarm issued on the 19th of March, followed by another on the 24th, two on the 26th, one on the 29th, one on the 2d instant, and several others since—all first swarms and hybrids, excepting the earliest one, which is pure, or very nearly pure Italian. Yesterday my first black bees swarmed, while others are making preparations. About thirty-six miles from here, in the country, a friend had his bees to swarm about two weeks ago, all blacks. The prospect here is very good for a fine honey season, if if our forward spring should not prove the forerunner of a dry and unyielding summer.—J. R. Bledsoe.

[For the American Bee Journal.]

Novice and the Eureka Bee Hive.

Mr Editor :—Do you not think that Novice is a little out of place in the remark he made in the March number of the Journal, page 206, on Jasper Hazen and his Eureka bee hive? I should judge from his language that he considers himself something more than a novice. Supposing that he has the best hive, and is the most successful beekeeper, does he suppose that all others can reach his eminence in bee culture at one step, with book knowledge only, and be also very successful? We learn of numbers who have taken a step far in advance of where they were, and have so fallen that their experience was *too dear*. It is *practical* knowledge we want, and that, like all trades, must be got by degrees. If we change from common hives, with honey boxes attached, to movable comb hives, we had better try only a few at first, and hold on mainly in the old way until we learn a better. Some beekeepers, highly interested in the business, may never have a taste for so much overhauling of bee hives as taking the honey with a melextractor requires; and these, and some others, want to do the best they can, in box-honey. And why shall they not have a chance? Why shall not the merits of such hives be put before the public, as well as others? And why shall not Jasper Hazen have the same privileges through the Journal as others, when patentees have, so far, been allowed so liberal a share of room? We presume Mr. Hazen would like to sell rights, but is he alone to be benefited by the trade? Do we not all know that a good hive has a good deal to do with our profits in apiculture? I have so far mainly used the Colton hive, with a capacity of 72 pounds for box honey; and for the last two years have beat the American hive, which has been kept in town. I have made four Eureka hives, and from what I see of them, I believe them the best in the country, to make profit by means of box-honey. Such is the construction, that the bees will hardly know whether they are in the boxes or in the main hive. The boxes when filled, will show off in good shape, and so help the sale. If need be, the combs may be taken out.

I see from the American Beekeepers' Convention, there is complaint of the dull sale of extracted honey, and the idea is advanced that it will be necessary to lower the price. Box-honey, because it is known to be pure, sells more readily and higher. It is yet to be seen, after Mr. Hazen *stimulates his bees a little more scientifically*, with his higher price of honey, whether he will not receive a larger profit than even Novice himself.

Alonzo Barnard.

Bangor, Me., March 6th, 1871.

P. S.—The word *usually* should be inserted in the eighth line of my communication in the Journal for March, so as to make the sentence read—"With few exceptions, the Italians have done the best, and usually, much the best."

[For the American Bee Journal.]

"My Patent Bee Hive."

What intelligent beekeeper can read the heading of this article, without feelings of disgust and indignation? Of disgust, when he thinks of the legion of foolish and worse than useless devices to manage or rather mismanage the little honey bee. Of indignation, when he remembers how those devices are combined with valuable qualities, thus either infringing on the patented rights of other parties, or which are not and cannot be patented—the inventors having given them to the world.

Now, I wish to say a few words upon patents in general, and patent bee hives in particular. It has been said that "necessity is the mother of invention." The emergencies of the circumstances require the attainment of a certain object, and immediately the attention of all interested parties is centered upon that object; and it will not generally be long before a method, and perhaps several of them, will be devised to attain it. Many important inventions are the result of the merest accident, and many others result from seeing some person do a thing in a novel and efficient method, but which the operative never dreamed of having patented.

The fact is, inventions *grow*. By which I mean that the research and investigations of the past are the capital stock of the present; and we take their achievements as the basis on which to build further improvements. The first man was not a skilful mechanic, and the first mechanic did not invent the steam engine—nor did the first beekeeper invent the movable comb system. Thus we see the reason why, in many cases, the

same thing is being studied and "invented" by different persons, and perhaps in different countries, at the same time, and their inventions are being consummated nearly simultaneously.

Now, a word about patent hives. Mr. Langstroth I regard as exceptionally honest, and honorable in all his claims, in this direction; and yet I must criticise his course in this matter somewhat. I obtained a right to make and use Mr. Langstroth's invention under his original patent, and made a considerable number of hives, so that I have not used them all yet. Many of my neighbors made similar hives, without purchasing any right to do so. I wrote to Mr. Langstroth asking him if he was the first inventor of the movable frame, and if so, why infringements are not prosecuted? He replied that he did not claim to be the first inventor of the movable frame, but he claimed to have invented "the first movable frame that was of any particular value."

Now, this is too ambiguous. We don't know what Mr. Langstroth's movable frame is. Munn, of England, invented a movable comb frame some years before Mr. Langstroth's patent; and I understand that Debeauvois, of France, in 1851, made and used a movable comb frame with sides and bottoms at suitable distances from the bottom and walls of the hive. I suppose the shallow chamber below the honey board, to be Mr. Langstroth's invention, but beyond that I don't know what it is. I have understood that at the time of the re-issue of his patent, he made certain disclaimers, stating what he did not claim; but very few persons about here know what they are.

And now, patent bee hive men, let us know just what your patented inventions are, and what they are not, and we will judge for ourselves whether they are valuable to us, or not.

L. BECKWITH.

Berlin, Wis., March 13, 1871.

[For the American Bee Journal.]

Kane County (Ills.) Beekeepers' Society.

At the last Kane County Beekeepers' Quarterly meeting the first question debated was the rearing of queens from eggs or larvæ. It was decided that full colonies of bees be employed, and eggs used, with the proper feed ready prepared by the bees, by the time the eggs hatched into larvæ. Recommended to remove the queen cells started from larvæ, insert hatching eggs, at the time the nursing bees are ready to feed the young queens from the commencement, and no half-starved queens produced.

Bee pasturage. It was decided to be desirable to furnish crops producing honey, for large apiaries, it not being safe to depend on natural sources in all locations. An increase of fruit trees and shrubs, in new locations, was recommended; as also, to increase the culture of the raspberry, basswood, and maples for sap and sugar, as well as flowers. Chestnut and tulip trees to be tested, as to their adaptation to our climate and soil. Alsike clover to be grown on moist, rich soil; and perhaps mulched to retard its too early flowing. Buckwheat was highly recommended, as with the honey extractor, the honey could be managed to suit the keeper or the bees.

The dairying interest in our county was spoken of as being advantageous to bee keeping. Resolved that all who can, should attend the meetings of the North Western Dairymen, to be held at Elgin.

QUESTIONS PROPOSED.

1. Special honey crops.
2. Does sugar undergo any change when fed to bees?
3. Does honey shrink in measure or weight, after being taken from the hive?
4. Bee feeding—the quantity and quality; and for what purpose is it necessary to feed?

The above subjects were discussed, and further consideration postponed to the next meeting—when they may be taken up or continued, or other questions taken up, as may seem desirable.

A Fox River Valley Beekeepers' Society is spoken of to be organized on the same liberal plan as the county society.

All persons are invited to attend our quarterly meetings, without cost, as the Treasurer has sufficient funds for present use. Any person can become a member by applying to the Secretary, J. M. Marvin, of St. Charles.

The officers of the society are:—

President—William Urie, Aurora.
Vice President—George Thompson, Geneva.
Secretary—J. M. Marvin, St. Charles.
Treasurer—S. Way, Batavia.

[For the American Bee Journal.]

Winter-Surviving Drones.

MR. EDITOR:—I scarcely feel myself able to write a few lines for your valuable Journal, yet when something unusual transpires, I feel it my duty to make it known. While examining my bees the other day, I found drones in perfect health, as far as I could see, and they, too, from last year's raising—since, in our latitude of 40° north, such a thing as raising drones naturally, this early, is simply impossible.

Why, or for what reason, they were allowed to live over the winter, is certainly not easily understood, since the bees are in perfect health and have good fertile queens. These drones are not found in one hive only, but in a good many, and quite a number appear to be left in each. One reason may be that last fall there was an abundance of honey, and the hives were full of bees, and amid such plenty their usual instinct for destroying all that are not useful, may to a certain extent have left them. However, I should like to have some of the old bee men who contribute to the Journal, give their opinion of this case.

The season so far has been very favorable for bees, and they are rapidly breeding. The only fear is that they may exhaust their stores before the soft maple and the fruit trees come in bloom.

W. B.

Gebhartsburg, Pa., April 10, 1871.